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INDUSTRIAL DERMATOSIS AMONG PRINTERS.

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A dermatosis, called "ink poisoning" by printers, which affects those parts of the arms and hands that are subject to constant contact with colored inks, is known to have prevailed for many years among printers in the large printing and engraving plants of this country; and the attention of dermatologists has been attracted by discussions in foreign medical periodicals of cases of a similar dermatosis.

The weight of blame for this dermatosis is attributed by foreign writers to the many substitutes for and adulterants of the pure oil of turpentine.

Oestreicher,¹ of Berlin, who has had occasion to treat a great many cases of skin diseases among printers, says that the workmen reported unanimously that the disease had appeared only since the introduction of a substitute for the oil of turpentine. In this particular instance the oil was replaced by a heavy benzine, benzol, and fats. He further remarks: "There remained only the problem why all the workmen who had to do with the turpentine substitute were not equally affected with the disease. The solution is found in the fact, familiar to all observers, that the skin of different individuals responds very differently to outer influences."

Zellner and Wolff¹ made an investigation into the same condition, because it was found that for many years skin diseases had been appearing more and more frequently among members of the Printer's Sick Fund. Their investigation, and information collected from questionnaires, led them to the following conclusions:

"1. It appears that pure oil of turpentine seldom causes disease. With the firms which used pure oil of turpentine as washing material, cases of sickness occurred only sporadically or not at all.

"2. Very different was the situation with those firms which used impure oil of turpentine or which used substitutes. Many of the substitutes for oil of turpentine were exclusively benzines. Since all the substitutes which were submitted to us turned out to be benzines, we have to advise against the use of these substitutes, and of course, against benzine also."

Gebert² in discussing similar cases, was not sure whether the impure hydrocarbons have something to do with the dermatosis, or

¹Magazine of Hygiene and Infectious Diseases. Fluegge and Gaffky, Leipsic, 1913, vol. 75, pp. 69-80.

whether impurities proceeding from the ink are the final cause of the affection. In reply Blaschko² said:

"Several years ago I presented in this very association a number of workmen from a great printing establishment where an epidemic deterioration, so to speak, had suddenly appeared. This probably came from an irritation due to grease or to materials for cleaning. Among printers the source of irritation is hydrocarbon oil, but often turpentine and also printer's ink. This last consists essentially of fine coal dust, so that the conditions are similar to those which obtain among chimney sweeps. If printers escape cancerous formations, it is because they come in contact with these substances only with thickened epidermis of the hand, and because the workmen always wash immediately after the work."

Inquiries made of the larger printing and engraving firms of this country disclose the fact that although neither oil of turpentine nor a substitute is used, still the arms and hands of the pressmen develop lesions similar to those described by these writers.

The skin lesions vary from slight erythema to ulcerations, and are located on all regions of the forearms and hands, occasionally extending above the elbow. Some of the lesions present a dry and scaly appearance, while others are moist and vesicular. Some have a tendency to coalesce and spread, others are discrete. A history of erythema followed by vesicular eruption, with itching or burning or both, is given by most sufferers, only a few giving a negative history in this respect.

In response to requests for advice on methods of prevention and treatment of such cases, a study to determine the possible relationship of the dermatosis to the use of inks was recently undertaken by the United States Public Health Service.

Scope of Investigation.

While hearty cooperation in the investigation was offered by many plants where there were cases of dermatoses, on account of the similarity of the plant processes the study was confined to one plant, and embraces the following subdivisions:

1. Methods of plate printing.
2. Process in which the dermatosis occurs.
3. Materials used in processes.
4. Methods employed in removing the inks.
5. Physical examination of workers affected.
6. Physical examination of controls.
7. Discussion of medical findings.
8. Analyses of inks, oils, and soaps.

² From the Proceedings of the Berlin Dermatological Society, June 10, 1913, *Magazine of Dermatology*, Berlin, 1913, p. 813.

9. Experimental work on volunteers.
10. Conclusions.
11. Preventive measures recommended.
12. Treatment.

1. METHODS OF PLATE PRINTING.

There are two types of printing presses in the plant where the study was made; one is operated by hand and the other is electrically driven. Two persons are employed at each hand press; one printer, male, and one printer's assistant, female, working on an 8-hour shift. The frame of the press is of cast iron, and it supports two steel rolls, between which a traveling iron platen operates. To this platen is attached the case-hardened engraving plate, which is inked and polished by hand before the press is started. A star wheel, operated by the printer, is connected to the lower roll in such a way that, after the plate has been inked and polished, and a predampened sheet of paper has been placed over it, the iron platen together with the paper and plate is carried underneath the upper roll, which forces the paper down sufficiently hard upon the inked plate to print the engraving. The upper or pressure roll is covered with two wool felt blankets. These, in turn, are protected from dampness by a rubber blanket, made by surfacing a coating of rubber on a cotton drill backing.

Each power press is operated by one printer, male, and two printer's assistants, female. On the power press, the bedplate, similar to the platen in use on the hand press, makes a complete circuit of the press. The engraved plate is inked mechanically, polished by hand, and carried across in front of the padded pressure roll, where the first printer's assistant places one sheet of dampened paper over the plate. It then passes under the pressure roll, where the impression is made. The second printer's assistant takes the sheet off the plate, which is reinked and carried back to the front of the press, ready for the next sheet.

Since the speed of the power presses is controlled by a motor, the printer must adjust himself to his machine, and the speed is usually great enough to require a fairly active operator. The speed of the hand press, on the contrary, depends upon the printer entirely, for the machine operates only as he sets it in motion.

2. THE PROCESS IN WHICH THE DERMATOSIS OCCURS.

A study of the processes and practices reveals the intimate and constant contact between the printer and the materials used. Over the face of the plate, which rests on a warm table heated by electricity, the pressman passes an inked roller, leaving a thick film of ink on the plate. He wears short sleeves, and soon his hands and

arms, particularly the ulnar surfaces which rub against the body, become covered with the ink to the elbow. The excess of ink on the plate is removed by a stiff starched cloth, and then the operator passes his right hand over the plate further to remove the ink. This movement is followed by passing the left hand (which has been previously passed over a cake of whiting and rubbed against a pad hanging at the side of the workman, to remove the excess of whiting) over the surface of the plate, to give it a final polish. This act removes the last traces of ink from the face of the plate, leaving only the engraved lines filled with the ink. The ink thus accumulates on the hands and arms of the workman, remains throughout the working period, and is removed only at the luncheon period and at the end of the shift. The printer's assistant, a woman, who places the paper on the plate and removes it after the impression is made, handles the paper only by the unprinted edges and comes very little into contact with the ink.

However, the tips of her fingers frequently become soiled; and since it is necessary to prevent soiling the paper, she often resorts to the harmful method of keeping within reach a cloth saturated with benzol, in order to remove the ink from her fingers effectively.

The power press does not require the operator to apply the ink or to remove the excess by hand; but in removing the last excess of ink and polishing the plate he soon accumulates the ink on his hands and arms, as the hand pressman does. His two assistants, one of whom places the paper on the plate, and the other, who removes the printed sheet, do not come into closer contact with the ink than do the hand-press assistants.

Only a small proportion of the ink, estimated at about 10 per cent, is used in the actual printing. The remainder is lost by the methods employed in inking and polishing the plate.

The plates are cleaned with benzol at noon and again at the end of shifts by the printer or his assistant. Gloves are not worn during the cleaning process. Kerosene is used for cleaning the machinery.

3. MATERIALS USED IN PROCESSES.

A variety of colored inks is used, and printers are subject to contact with all colors used, according to the work assigned them.

The starched cloth and whiting (calcium carbonate) mentioned in the description of the process, while they do not influence the character of the printing, are constantly employed, and may be considered as materials used in the process. Likewise, the benzol and kerosene are in daily use. A discussion of the analyses of the inks and of oils and of soaps used in removing the inks, is presented in a later section of this report.

4. METHODS EMPLOYED IN REMOVING INKS.

The removal of the ink from the hands and forearms at the end of the work period involves almost brutal treatment of the skin, the severity of the treatment varying according to the thoroughness and the special methods employed by the individual. Most workers first wash their hands and arms in a mineral oil supplied by the plant and kept in troughs in the wash rooms for cleansing purposes. Frequently the hands and arms are immersed in this oil, but in some cases the oil is applied by means of a cloth, which is often used in common. After as much of the ink as possible has been removed by the oil, the worker continues the cleansing process with soap and hot water. Frequently pumice soap and fine sand mixed with soap are used. A stiff brush and salts of tartar (potassium carbonate) are also used by some to assist in the ink-removing process. Few of the printers use emollients after washing, and so the unprotected skin is exposed to the atmosphere.

5. PHYSICAL EXAMINATION OF WORKERS AFFECTED.

In order to determine, if possible, why certain individuals acquired the dermatosis in a rather severe form after a short period of exposure, while others, working under identical conditions, either never developed the skin lesions or developed them only to a very mild degree after years of exposure, and on account of the many suppositions advanced by the men as to the cause of this dermatosis, it was decided to go thoroughly into the history of those affected, and to give each a complete physical examination. In all, 35 affected cases were examined.

6. PHYSICAL EXAMINATIONS OF CONTROLS.

At the same time, similar examinations were made of 18 men not affected with the dermatosis, but who worked, in many instances, on the same presses and under the same conditions as those affected.

7. DISCUSSION OF MEDICAL FINDINGS.

The exposure theories held by the men or advanced by other observers were given due consideration in the analysis of the findings. Most men adhere to the theory that either the inks themselves or certain ingredients contained in them act as chemical irritants of the skin. A few were of the opinion that the dermatosis is of an infectious nature; others that the materials used in removing the inks are the offending cause; and still others attributed the affection to carelessness in personal hygiene, individual susceptibility, or impaired physical condition.

Very marked differences of opinion as to the particular ink which causes the trouble were expressed by those examined. Green ink seemed to be most frequently accused; however, some of the men examined had developed lesions while working in every color, including black, so that apparently no particular ink is solely responsible for the condition. While not all cases examined presented lesions which could be attributed to the inks, each was prone, nevertheless, to blame the inks for his condition. There were no constitutional symptoms accompanying these skin lesions; neither did questioning as to habits and past history elicit information which threw any light on the causation of the condition. The workers examined were well distributed according to age, weight, and height. All were Americans.

The histories of these men failed to disclose a similar condition in any member of their families or in any individual worker himself prior to his employment involving the use of inks. This weakens any theory of infection which might be advanced. The physique and health of the individual apparently have no influence in the acquirement of the affection; some men with severe cases were otherwise in excellent physical condition, whereas some of the controls were physically below par. Nor was personal cleanliness a factor as a causative agent. One significant fact was very prominent: all persons suffering with dermatosis were found to have dry skin—that is, skin either partially or wholly devoid of natural oiliness; whereas those persons without eruptions had oily skin. This dryness of the skin is the only differentiating factor found to exist with any degree of constancy among the men so affected.

8. ANALYSES OF INKS, OILS, AND SOAPS.

A careful analysis has been made of all substances used by the men, on the hypothesis that some ingredient present is the source of the irritant action on the skin.

The Bureau of Standards, United States Department of Commerce, made most of these analyses. Assistant Chemist Harry Houghton, of the Office of Industrial Hygiene and Sanitation, United States Public Health Service, made certain additional tests to exclude specific adulterants suspected.

Linseed oil is used as the vehicle of the inks, the black ink containing the highest percentage of it and the brown the lowest. Lead chromates were found in all but the black ink. Prussian blue was found in the green and the black. Excess of lead sulphate, and also of calcium carbonate and barium sulphate, was found in all the inks with the exception of the black. Bone black is used in the black ink. All the inks were found to be free from arsenic and mercury. It seemed logical to blame the chromates for the trouble, but to do so

would not account for the action of the black ink, which is free from chromates. The thought occurred that perchance a chemical change may take place when the inks come into contact with the moisture of the skin. Pursuing this theory, the Bureau of Standards reported that the mixture of pigments in the green ink yields soluble calcium ferricyanide when leached with water.

The fact that the inks retard healing after abrasion of the skin indicates the presence in them of ingredients, perhaps of chromates, which aggravate an otherwise simple dermatosis. We have reason to believe that the driers in the inks have a tendency to extract the natural oiliness of the skin.

While a number of the workers suffering with the dermatosis said that they did not use benzol, and that their assistants cleaned the plates, others admitted that they themselves cleaned the plates with benzol. The injurious effects of benzol are well known, and it is possible that some cases of the dermatosis had their origin from its use. When it is necessary to use it for cleaning purposes the hands should be protected by gloves.

The mineral oil supplied by the plant in which the study was made was examined both chemically and bacteriologically. The chemical examination was made by the Bureau of Standards, and the bacteriological examination by the Hygienic Laboratory, United States Public Health Service. The chemical examination consisted in testing the oils for the following constituents: formaldehyde, turpentine, benzol, coal oil, phenol, analin oil, lye, wood alcohol, and gasoline. All these were absent. Samples of oil were taken from each trough used by the printers and were sent to the laboratory for bacteriological examination and culture. The results show that the oil in these troughs does not act as a culture medium, but some organisms were found which are capable of causing folliculitis and kindred conditions.

Several of the workers are opposed to the use of oil in troughs, and prefer to use instead fresh oil on clean cloths. The investigator believes that some satisfactory method could be worked out whereby this cleaning oil would not be used in common and yet would be used economically.

Two samples of soap used in the plant were examined for free alkali by the Hygienic Laboratory, but were found to contain no alkali.

9. EXPERIMENTAL WORK ON VOLUNTEERS.

It had been intended to carry on a series of experiments on laboratory animals, such as guinea pigs, rabbits, mice, dogs, and cats, to determine the effects of the inks when in prolonged contact with the skin; but reports on previous experimentation of this kind and the

necessity of shaving parts of the animals, a process which would in itself produce an abnormal condition, convinced the examiners that the results would be very unreliable and perhaps misleading; therefore volunteers from the Office of Industrial Hygiene and Sanitation were called for, and at the same time the printers affected with the dermatosis were asked to report at regular intervals for advice and treatment.

Eleven subjects were used for the experiments. The "trial and error" method was employed. The various colored inks were experimented with. Ink was applied to the posterior surface of the forearm, about midway between the wrist and elbow, upon an area of approximately 9 square inches. Instructions were given not to remove the ink. The application was repeated every day for a period of a week in some cases, and of four weeks in others. Five of the volunteers had oily skin, and six had dry skin. At the same time two printers afflicted with the dermatosis were instructed not to remove the ink from a similar area on the forearm. In no instance was there any sign of irritation.

The experiments were repeated with the oil supplied by the plant, and likewise no irritation was experienced. Two men suffering with the dermatosis gave a history of not using the oil for over a year, believing it to be the cause of their trouble, but their condition was in no way improved.

In the next series of experiments instructions were given to remove the ink each evening with soap and water and with the aid of a brush. One subject who had a very dry skin reported the next morning, complaining that the area from which the ink was removed was raw, tender, and painful. The remaining five with dry skins and one with an oily skin reported that their arms felt slightly sore, but no irritation was discernible. The others experienced nothing unusual. It was the opinion that the black ink was most easily removed, and that removal of brown and green required more effort. By repeating these experiments it was found that all those with dry skin complained more and sooner of the irritant action than did those with oily skin. In one case a lesion developed similar to those found among the printers. One man discovered that he could remove the ink as effectively with a rough wash cloth, soap, and water as with a brush, and with less pain. On account of the ferricyanide yielded by the green ink, this powder was used alone and also in combination with linseed oil and water, with the result that no irritation nor skin lesions were produced.

In another series of experiments the skin was first irritated, and in some cases the surface was abraded, as in the procedure followed in vaccinating, and the ink was then applied. A similar surface was abraded at the same time on each person, and the oil was applied.

The abraded surfaces where the oil was applied soon healed; those where the ink was applied required three to five days longer for healing. The green and brown inks delayed healing longest, and the black for the shortest time. It was found that when the skin was thoroughly dried and cleaned with alcohol, the ink was removed with greater difficulty. Again, after applying some of the linseed oil used in the inks and following this with an application of the ink, the latter was removed with less difficulty. In order to eliminate the use of sand, pumice soap, and hand brushes, as aids to the removal of the inks, sawdust mixed with liquid green soap was used. This was found more effective than any of the other agents. Again, when lanolin was applied to the skin before the application of the ink, the latter was very easily removed by washing with sawdust, green soap, and warm water.

The men suffering with the dermatosis who continued to report for treatment were furnished with lanolin and the mixture of sawdust and green soap, with instructions to apply the lanolin before entering the pressrooms, to wash at the lunch period, using the sawdust mixture to remove the ink, again to apply the lanolin before returning to the press, and to wash as before at the end of their shift.

Those men suffering with severe skin lesions were given the following compound in solid block form:

Zinc ore (calamine and a silicate of zinc), pulverized and passed through a 100-mesh sieve.....	3 parts.
Gelatine.....	4 parts.
Glycerine.....	5 parts.
Water.....	6½ parts.

They were also given a copy of the following directions for using the calamine paint:

"(1) Melt the solid block in the inner pan of a double saucepan, the outer pan of which is filled with water and heated on a fire or gas stove.

"(2) When completely melted, stir with a stiff-bristled, common paint brush. If the paint is too stiff, as it frequently is, add a little hot water until the proper consistency is obtained. This should be about that of a thick sauce or sticking paste. If too much water should be added in doing this, the excess can soon be eliminated by prolonged heating or by adding more of the solid block.

"(3) Paint over the part afflicted with a single thin layer of paint, and before it has set tap lightly all over with a piece of absorbent wool, so as to form a kind of feltwork with the paint.

"(4) Allow it to set completely before putting any clothes over it.

"(5) Leave it on until it begins to come loose; then peel off and apply more in the same manner.

"N. B.—If the patient complains of its being too hot when applied, it is probably because too much is taken up in the brush at a time; this is easily obviated by emptying the brush on the side of the pan before applying the paint."

Improvement in the lesions was soon noticed; and in some cases the results were surprising. One case in particular is significant—that of a young man who had just returned to work after over a month's absence, during which time he was receiving treatment which did not improve his condition. When first seen, on August 30, 1920, this man had well-developed lesions covering the dorsum of both hands and arms, and the interdigital spaces, together with a concurrent, inflamed, and swollen condition of the fingers and hands. In order to assist the treatment, two weeks' rest was recommended; but the patient refused to take it, saying that he had already lost too much time, and promising to avail himself of the rest on or about October 1. The treatment, as outlined above, was instituted, and without losing an hour's time, or changing inks, this man responded to treatment, and when last seen, on October 5, the lesions were hardly discernible. This is by no means an isolated case. Those who consistently followed the above instructions were soon repaid by a noticeable improvement of their condition. Others who failed to notice any magic change in their skin lesions on one or two applications discontinued the treatment.

10. CONCLUSIONS.

1. Our experiments in using the inks upon the unbroken skin failed to cause a dermatosis or even an irritation. The inks delayed healing to a varying degree when applied after abrasion of the skin; the brown and green delayed healing longest, and the black for the shortest time.

2. All inks, irrespective of color, when removed by the methods in vogue at the plant at the time of this study caused an irritation—and in one case a dermatitis—among those with dry skin.

3. The degree of dermatosis apparently depends upon the dryness of the skin, the amount of linseed oil in the ink, and the method of removing the ink. It is believed that the reason why some men develop the condition in a short time and others after a long period of time lies in the degree of natural oiliness in the skin of the individual. Again, with those who use the black ink, which has the largest proportion of oil of all the inks, the trouble is further delayed. It may be that the drier in the inks has a tendency to extract the oil from the skin of some individuals. Those who do not wear gloves when cleaning the plates with benzol may more readily acquire a dryness of the skin. The dry skin might be compared with a blotter, which very readily absorbs the oil in the inks and the pigments

which are carried with the oil. These pigments, in turn, are obviously removed from a dry skin with more difficulty than they are from a skin which is already oily and which absorbs little or no additional oil from the inks. More scrubbing is required in the case of the dry skin, and a dermatitis soon begins. The inks retard healing, and from repeating the process daily, a severe case of eczema may develop.

4. The oil supplied by the plant in no way contributes to nor influences the dermatosis.

5. The prophylactic measures recommended, if used constantly and under supervision, will prevent the dermatosis.

6. The skin lesions respond readily to the treatment with calamine paint.

11. PREVENTIVE MEASURES RECOMMENDED.

While it is desirable in various processes to remove substances which are detrimental to health, it is unfortunately not always possible to remove them, any more than it is possible to remove the electricity from a charged wire, in order that the worker handling it need not wear rubber gloves; therefore it becomes the duty of the worker to equip himself properly for his work, and it is advantageous to the management to see that the worker is so equipped.

A supply of lanolin or a mixture of lanolin and olive oil in equal parts should be placed in suitable receptacles in the wash room where the printers and those who handle the inks change their street clothes for work clothes. Before entering the press rooms, each worker should be required to rub lanolin well into the pores of the hands and arms. If the skin feels too greasy after this application, the excess may be wiped off with a clean cloth. At the luncheon period these workers should be supplied with a mixture of sawdust and liquid soap (the sawdust should be moistened with the soap), which, together with warm water, will readily remove the ink without injury to the skin. It is optional with the men to precede the sawdust and soap with the oil supplied by the plant. Before entering the press rooms, the first process described above should be repeated; and at the end of the shift, the second, or cleansing, process should be repeated. The foremen in these rooms should be responsible for their helpers' carrying out the preventive measures.

12. TREATMENT.

As soon as the foreman notices an incipient eruption on the hands or arms of any worker in his department, he should insist that the worker report to the medical officer, who will furnish him with the compound referred to above, and instructions for its use.

ANOPHELES AND SEA WATER,

WITH OBSERVATIONS ON THE INFLUENCE OF SALINITY ON THE DEVELOPMENT OF AMERICAN SPECIES.

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In interpreting the geographical distribution of malarial fevers and the occurrence of insect carriers of the disease, a more intelligent appreciation of the problem can be gained from a study of the chemical content of water as well as biological environments. The relation between the amount and kind of chemical in water and the presence of mosquitoes in it is not as well understood as the purely biological relationships. The influence of the presence of salt in varying degrees in bodies of water, on mosquito life, has not been given the consideration it deserves. Two points seem especially worthy of further investigation: first, whether *A. quadrimaculatus* ever thrives in brackish water, as the results of the work of Smith and others would seem to indicate; and, second, whether there is epidemiological evidence tending to prove that malaria is transmitted by anophelines developed in brackish waters. In this connection it has been stated by investigators in Malaya that there is evidence that *A. rossii* developed in brackish water is a vector of malaria whereas, when developed in fresh water, it is doubtfully so.

Various writers have recorded instances in which mosquito larvæ have been observed to thrive in sea water. Some references are given below.

Smith (1904) states: "The species of Anopheles will breed wherever they can find water. There is no limit of size or kind of pool, and except that they do not occur in really foul liquids, they may be found wherever any other mosquito can breed. I have seen them in my experiment pails, in rain barrels, in gutters, in lot pools, in swamps, in the salt marshes, in woodland pools, in ditches, at the edges of running streams, in ponds, and even in springs." The same writer elsewhere says of *A. punctipennis*: "On the whole, it breeds most abundantly in clean water along the edges of pond or swamp areas or in the eddies of shallow streams." Concerning *A. quadrimaculatus* he says: "The breeding places are similar, but this form also occurs in brackish water on the salt marshes, hence has a somewhat wider range and adds the positive danger of disease to the disadvantages of an undrained marsh."

Dutton (1903), on his malaria expedition to Gambia, collected tidal water on several occasions and found it to contain Anopheles larvæ, which later developed into adult mosquitoes (*A. costalis*). Water collected in tidal pools in drains near the sluice gates, supporting larvæ of *A. costalis*, contained 1,038.5 parts of chlorine per 100,000 parts.

De Vogel (1907) found that the investigations of several Italian workers have negatived the idea that *Anopheles* can multiply in pure sea water. According to Peronne the maximum proportion of sodium chloride in the water which *Anopheles* larvæ can stand is 1.87 per cent, and according to Vivante, 1.75 per cent. De Vogel, having made some elaborate studies in regard to malaria at Samarang, Java, found as early as 1902 that a species of *Anopheles* was breeding in a certain pool containing 2.8 per cent of chloride of sodium. As an example of anophelines occurring in saline pools, he cites a marine station on the island of Onrust, which is 2,000 meters from mainland and contains no fresh water, but which had to be abandoned because of the ravages of malaria. This was believed to be due to *Anopheles* breeding in the sea water on the island. Malaria was a serious problem in the Karimon Islands before the sea-water pools were dried. *Anopheles* larvæ were found on the island of Grand Marimon, in pools containing not less than 3 per cent of sodium chloride. In a pool of water at Samarang, which had a surface of 20 to 30 square meters, a depth of 10 to 30 centimeters, and a percentage of 2.88 of sodium chloride, *Anopheles* larvæ were swarming, whereas *Culex* larvæ were not found. The author draws the following conclusions:

1. There are species of *Anopheles* which can live very well in sea water.
2. These mosquitoes lay eggs which develop even in sea water which has been evaporated to half its original quantity.
3. These larvæ in the gradually evaporating pools of sea water can stand an evaporation of the water to one-third of its bulk, but do not appear to transform to adults if the concentration be greater than this.
4. The larvæ coming from eggs laid in sea water in high concentration can accomplish their entire metamorphoses in almost the normal time. This is true even when the water has such concentration that the development of larvæ originally hatching in unconcentrated sea water would be retarded by this salt water.

In the opinion of de Vogel, the bad malarial reputation which the coral islands of the East Indies suffer is explained by his investigations, since many cases of malaria are observed along the coast during the dry season, when the rivers and fresh water streams are dried up. Villages near the sea, in the middle of tidal pools, have during a period of ten years an average mortality of from 1 to 4 per cent each year. In villages farther away from the sea, where the ponds have been abandoned or neglected and the sea water is, therefore, isolated, there is a mortality which varies from 8 to 10 per cent each year. During the dry season the pools in these regions have a proportion of sea salt equal to that of the ocean. In this dry season the death rate is greatest, and this is exclusively due to the *Anopheles* breeding in the sea-water ponds. The difference in the malarial rate is not due to any change in the character of the water itself. When the pools were tide-water pools, fish and other

life had access and kept the mosquito larvæ in check, whereas in the subsequent isolated pools the *Anopheles* larvæ could develop unhindered.

Foley and Yvernault (1908) found in Algeria that an *Anopheles*, *Pyrethrophorus chaudoyei*, was able to breed in very saline waters. The same they note as being true of *Anopheles vagus* found in the Dutch East Indies.

Banks (1908) reports that *Myzomia ludlowii*, Theob., a species of *Anopheles* which probably transmits the subtertian malaria parasite, breeds in the Philippines, both in salt and fresh water, and altitude up to 1,500 meters has no appreciable effect upon its development. He thinks that it was originally a fresh-water species only, and has adapted itself to a marine life. *Nyssorhynchus stephensi*, an Indian species and a malaria carrier, has also been found breeding in salt water.

Clerc (1909) experimented with larvæ of *Anopheles maculipennis*, and found that the larvæ placed in water with 44 to 46 grams of salt to the liter of water would die if very young, but the older larvæ developed and produced imagoes.

Gholap (1910) discovered the larvæ of *N. stephensi* in ponds containing sea water at Colaba near Bombay. There were millions of the larvæ present in these water collections.

Willcocks (1910) records finding in Egypt, larvæ of a species of *Pyrethrophorus* (*P. cleopatæ*) flourishing in large numbers in brackish waters containing from 2.56 to 3.25 per cent of common salt. Even 1 per cent proved fatal to the larvæ of the common Egyptian *Anopheles*, *Celia pharoensis*.

Le Prince and Orenstein (1916) give the following account of mosquito larvæ in salt and brackish waters:

"At Cristobal, Beach Island, in the Rio Grande Valley, and at Gatun, *Anopheles* larvæ have been found in brackish and salt water. In the first three locations the propagation areas were affected directly by tide water. At Cristobal, in that part of the tidal flats covered by high tides and by excessive tides, larvæ were found to be numerous wherever clearings were made and leaves remained in the water. Clumps of plant stems afforded hiding places to the larvæ of *A. albimanus* and *A. tarsimaculata*, even when small fish were present. Invariably larvæ were most numerous where the fallen leaves were most plentiful. In the swampy area in the Rio Grande Valley the percentage of salt water varied with the tide and rainfall. *Anopheles albimanus* was the prevailing species. The deep water contained many mangrove trees and drift from upstream, whereas the more shallow was well covered with grass, dead leaves, and plants that thrive in brackish water in the Tropics. Larvæ could always be found in untreated portions of this area where there were sufficient hiding places. The area was about a mile in length.

"The water in the grass around the edges of the newly formed lagoon (a flat depression north of Gatun Dam) remained nearly fresh, and no salt could be tasted along shore. In places where tall grass grew, salt was not perceptible to taste 600 feet from the shore line. In wading out from the shore the water was tasted every few yards, and it was noted that young *Culex* and *Anopheles* larvæ appeared with the first indication of brackishness. In going farther from the shore, as the water became more brackish the *Anopheles* larvæ found were more numerous and more mature. When the water became salty enough to be decidedly disagreeable to taste, *Anopheles* larvæ were most numerous. They were more numerous per unit of area than had been noted anywhere on the Isthmus during the previous nine years of antimosquito work. The absence of *Anopheles* and the scarcity of *Culex* larvæ in the wet zone not affected by salt water was unique. Tests made at many points along the shore established the fact. The condition was so uniform that by wading slowly from shore to shore with eyes closed, and testing by taste alone, we were able to reach the infested zone and secure larvæ in collecting cups. Small larvæ-destroying fish were quite numerous, but larvæ of *Anopheles* and *Culex* were so plentiful in the salty water that it was impossible for the fish to make any reduction. The species present was chiefly *A. tarsimaculata*, although *A. albimanus* and *Culex* were very plentiful. The production area continued in existence for several months, and frequent analyses of the water for sea-water content were made. In places where the larvæ were very numerous the water contained 60 per cent or more of sea water, and at times above 80 per cent."

Barber (1918), referring to *Anopheles rossii* states: "The comparatively high percentage of infections observed by me in the brackish water type of var. *indefinitus*, would bring this form under suspicion, although sporozoites apparently are not readily formed. Epidemiological evidence in the coast regions of the Federated Malay States is at fault, since this type of *rossii* is there so commonly associated with *ludlowi* and *umbrosus*, both known carriers. * * * The occurrence of this type (Giles) in brackish water, the ordinary breeding place of *A. ludlowi* in Malaya, is noteworthy, since the larvæ of type Giles and that of *ludlowi* appear identical."

Howard, Dyar, and Knab state: "In America several species of *Anopheles* have been found to breed in brackish water, but none of them exclusively so. *Anopheles crucians* has been found to breed in brackish water in New Jersey and Louisiana, and we have already mentioned that Smith has found larvæ of *A. quadrimaculatus* in New Jersey under similar circumstances. It is worthy of note in this connection that *A. crucians* seems to thrive best in the vicinity of tide-water and to occur much less abundantly inland."

With reference to the effect of salinity upon *mosquitoes other than Anopheles*, Chidester and Patterson (1916) reach the following conclusions:

The degree of salinity of the pools of the salt marshes on the New Jersey coast is about 7 or 8 per cent, but may be subject to greater fluctuations. Two series of experiments were carried out to determine the effect of marked changes in salinity on the larvæ of *Aedes sollicitans* and *Aedes cantator*. In the first series, larvæ were transferred from pools to water varying from a 13 per cent salinity to distilled water. In the second series, larvæ were placed in solutions varying from 16 to 35 per cent salinity. None was able to survive in the 22 per cent or higher concentration for more than two days. Further examination of pools showed that in one case, larvæ of *Aedes sollicitans* were living in water with a 22 per cent salinity, at a temperature of 64° F., whereas none was present in a pool a short distance away, where the salinity was 24 per cent and the temperature 67° F. Other records show that *Aedes sollicitans* was able to withstand a higher degree of salinity than *Aedes cantator*. The distribution of various species of mosquitoes over the salt marshes appears to be dependent to a certain extent on the amount of salt present in the water; this factor may also influence the development of the eggs.

OBSERVATIONS ON THREE AMERICAN SPECIES.

In connection with the control of malaria in extra-cantonment zones located in "tidewater" country, and in the course of other malaria investigations, extending, in all, over a period of four years, the writer has had occasion to note something of the relative breeding habits of *A. quadrimaculatus*, *A. crucians*, and *A. punctipennis* in relation to various strengths of sea water. The observations herein noted were made in certain areas bordering upon the Chesapeake Bay, Hampton Roads (or its tidal tributaries), and the Atlantic Ocean at Virginia Beach, Va.

Anopheles crucians.—(1) Near Langley Field, Hampton, Va., in September, 1917, a large degree of infestation of *A. crucians* in barns was found. The production area was found to be a salt marsh three-fourths of a mile away. Subsequent and repeated examinations revealed *A. crucians* breeding (and producing) generally in the marsh in water showing a salinity of 10,088. (Hampton Roads at Newport News showed a salinity of 10,146). *Aedes sollicitans* was also producing profusely in the same water. The *A. crucians* larvæ were usually found in the salt grass, *Distichlis spicata*, the smaller and finer of the principal marsh grasses found in this locality. The larger salt-marsh grass, *Spartina glabra*, grows more abundantly where there is more tidal action, and *A. crucians* was found propagating in this grass only where its growth was much retarded or where it was dead.

No other species of *Anopheles* bred in this marsh, although a fresh-water pond in the vicinity was producing *A. quadrimaculatus*, and the fresh-water streams near by were producing *A. punctipennis*.

(2) At Virginia Beach, Va., Lake Rudee, originally a tidal stream and salt marsh, is intermittently formed by a deposit of sand at the beach, which blocks the outlet and impounds salt water. With the addition of fresh water from small streams and from rainfall, the water of this lake becomes less saline. At different times from August to October, 1919, the grassy borders of this lake were found to be harboring *A. crucians* in great numbers, larvæ of all sizes, or pupæ, were taken at every selective dip. This lake, the salinity of which had undergone no appreciable change during several weeks, conformed to Carter's classification of a "complete" breeding place, i. e., the eggs deposited here hatched and the succeeding stages of larvæ or pupæ through to the imago stage were completed in the same water. The salinometer reading here was 10,068 (the salinity of the ocean water nearby was 10,196). This lake then had 34.6 per cent of sea water at this point. Here was a body of diluted sea water covering approximately five acres, producing *A. crucians*, a malaria vector, in sufficient numbers to be of decided sanitary importance to the community. Extending to near Lake Rudee and separated therefrom by a strip of elevated land only a few hundred feet wide, was Lake Holly, which, with very rare exceptions, was fresh water. During the time of observations, the highest salinity of Lake Holly was 10,003. This lake was producing *A. quadrimaculatus* in great numbers. Was not a striking contrast afforded by these lakes in the matter of selective breeding places of the two species? Lake Rudee, containing 34.6 per cent sea water, had an *Anopheles* production of 100 per cent *A. crucians*; Lake Holly, practically fresh (1.5 per cent sea water), an *Anopheles* production of 100 per cent *A. quadrimaculatus*. The two breeding places were separated by a distance of less than 600 feet. In a stable on this strip of land, on a day in early September, there were collected 67 specimens of *A. crucians* and 85 specimens of *A. quadrimaculatus*.

(3) At West Point, Va., York River showed a salinity of 10,110. A pond had been formed by dumping rubbish across a salt marsh, for the purpose of extending a street. The fill was very loose and porous. No culvert had been installed. The main tidal stream was blocked, and at high tide additional salt water entered the pond through the fill. However, the level of the pond varied little between tides. The salinity at the lower portion of the pond was 10,077, or 70 per cent York River water. This degree of salinity would be approximately 50 per cent of that of sea water along this section of the Atlantic coast. *A. crucians* was breeding and producing profusely in this water.

Two hundred feet away, in a different portion of the same body of water, at a point where, owing to the large amount of seepage and the lack of mixing of the waters by wave action, the salinity was only 10,003, *A. quadrimaculatus* was producing freely.

(4) Experimental: Larvæ of all sizes and pupæ of *A. crucians* collected from obstructed ditches (salinity 10,088) in the marsh of Back River, near Langley Field, September 9, 1920, were placed in sea water, salinity 10,160, on September 10, and were not unfavorably affected by the transfer. All but three, which were of the first molt when placed in the sea water, had developed into imagoes within 12 days. Even the smallest of the larvæ developed as well in the sea water as those in the fresh water control.

Anopheles quadrimaculatus.—(1) As has been stated, Lake Holly, at Virginia Beach, is practically always fresh. Some years ago a flume was constructed connecting this lake with the ocean, for the purpose of admitting sea water at high tide. In its condition at the time of these observations, salt water came into the lake only at times of very high storm tide; so that not even sufficient salinity was attained to prevent the production of *A. quadrimaculatus*. In many parts of the lake, prior to the successful control operations in 1920, this species was found breeding freely. The highest salinity found at any time was 10,003, or approximately 1.5 per cent sea water at this place. No species of *Anopheles* other than *A. quadrimaculatus* was found breeding in this lake at any time. *A. quadrimaculatus* was breeding profusely in another fresh-water pond one-half mile distant, and *A. crucians* bred in the saline Lake Rudee a few hundred feet away.

(2) The small body of impounded water at West Point, previously noted, covered an area approximately 3 acres in extent, in which a growth of reeds and salt grass (*Distichlis spicata*) still remained. As noted, the lower, saline portion of the pond was producing *A. crucians*. On the opposite side of the pond, 200 feet away, where seepage outcrop rendered the water fresh, only *A. quadrimaculatus* was breeding. The salinometer reading here was 10,003. The land rises abruptly from the narrow valley, and the protection of the steep sides of the valley in which this part of the pond lies, and the vegetation in the water, served to prevent wave action and the mixing of the waters. Consequently, the water on this side of the pond remained almost entirely fresh.

(3) A pond at the upper end of a salt marsh near Newport News produced *A. quadrimaculatus* in great numbers in 1917. This pond was one of those notorious products of road construction which are found in tidewater countries, where roads are built across salt marshes and culverts are set at too high an elevation or are inadequate in capacity, resulting in the impounding of fresh or more or less saline water above the fill. In this particular case, at times of

storm tides, salt water was admitted to the fresh water of the pond. However, the salinity was never so strong or so continuous as to kill the luxuriant growth of cat-tails that occupied practically all of the 2 acres of the pond, except a small portion near the effluent culvert. On one occasion at high tide the lower portion of the pond showed a salinity of 10,076. At this time, breeding was under control. The question naturally arises as to whether or not the larvæ and pupæ of *A. quadrimaculatus* may resist a relatively high degree of salinity intermittently. The determination of this point has a practical bearing on malaria control and could probably be demonstrated readily by experiments.

(4) In 1918, near Lee Hall and Camp Eustis, Va., Dr. F. E. Chidester and Mr. T. B. Hayne, jr., then associated with the writer in malaria-control work, collected *Anopheles* larvæ from the edge of a tidal marsh, in water showing a salinity of 10,048. Two specimens of *A. quadrimaculatus* emerged from this collection. Chidester and Hayne are both careful observers, and they expressed the opinion that this was a "complete" breeding place. However, in surveys extending over several seasons, under various conditions and in many salt-marsh areas, the writer has been unable to substantiate their findings.

(5) Experimental: Fourteen *A. quadrimaculatus* larvæ of all sizes were collected from a fresh-water pond and put into sea water, salinity 10,160. These were all dead within 12 hours, the larger ones surviving the longest. No mortality was noted in the pond-water controls.

Anopheles punctipennis.—The writer has never found breeding of *A. punctipennis* in salt or brackish water, nor is he aware of any report of such breeding. But there is much evidence that *A. punctipennis* has a wider range of breeding habits in fresh water than either *A. quadrimaculatus* or *A. crucians*. It is found in the coldest mountain springs and branches, and at times in streams and ditches foul with sewage. It is not resistant, however, to sea water.

Experimental: Twenty-five *A. punctipennis* larvæ of all sizes, collected from a ditch and a fresh-water lake, were transferred to sea water, salinity 10,160, and all were dead within seven hours. No mortality was noted in fresh-water controls.

Various experiments have been conducted by investigators to determine the value of salt as a larvicide. The following accounts are typical of the results obtained.

Veazie (1905) reports an attempt, during the outbreak of yellow fever in New Orleans, to destroy mosquito larvæ in the open gutters of the city by the use of common salt. The results were good where the work was properly done. Shortly after the operations were begun, there was a flight of *Aedes sollicitans* from the salt marshes northeast

of New Orleans. Indignant citizens, ascertaining from experts the name and habits of the species, jumped to the conclusion that the salting of the ditches had brought about suitable breeding conditions for *sollicitans* and that the invasion of the city by that species was a direct result of the work by the sanitary officials.

Peryassu (1908), with other workers in Brazil, made a series of experiments to determine the degree of salinity in which the larvæ of *A. argyrotarsis* could develop to imagoes. They found that in slightly brackish water imagoes were produced in a normal manner. In a mixture of 19 per cent of sea water with fresh water only a very small proportion of larvæ developed to imagoes. Beyond this the larvæ failed to pupate. With 20 per cent sea water some of the larvæ survived three days; with 30 per cent all died after one day.

Graham (1910) recommends the salting of water containing the larvæ of *Pyretophorus costalis*. He adds common salt in the proportion of 3 per cent and finds that it causes disintegration and precipitation of the motile algæ upon which the larvæ feed. The latter being thus deprived of their natural food, become cannibalistic. Salt, he says, in lesser concentration appears to inhibit the growth of young larvæ, probably by diminishing their food supply, but seems to hasten the fully grown larvæ, which become pupæ more rapidly than usual.

Darling (1910), working with the mosquitoes of the Canal Zone, observed the effect of salt and sea water on *Anopheles* larvæ and says: "In general, the effect of an irritating, toxic, or otherwise unusual fluid on mosquito larvæ is to hasten pupation. A number of experiments were tried with sea water, salt water, and solutions of the heavy metals, and in most instances, in the more concentrated solutions, when the larvæ were not killed within 24 hours, they pupated, and occasionally the period of pupation was shortened; so that if, for instance, sea-water were used as a larvicide, the first effect would be to hasten pupation, and thus increase the number of anophelines in a district, and if later the sea water became diluted by rain, several species of malaria-transmitting anophelines might breed in it without difficulty, notably *A. albimanus* and *A. tarsimaculata*. On this account sea water could not be used with any degree of success as a larvicide for anophelines, except in large quantities and in certain locations."

According to Howard, Dyar, and Knab, the proposed destruction of *Anopheles* by the introduction of sea water does not seem to be rational, at least with certain species. At all events the specific identity of the *Anopheles* concerned must be taken into account. It appears certain that while some species may breed either in fresh or brackish waters, others may occur exclusively in saline water, and still others only in fresh water.

CONCLUSIONS.

1. *A. crucians* was found to propagate in sea water diluted to a maximum salinity of 10,088 or slightly more than 50 per cent average sea water. The transfer of *A. crucians* larvæ, which had started their developemnt in brackish water, to sea water did not unfavorably affect their subsequent development.

2. *A. quadrimaculatus* was not found to breed in numbers sufficient to be of sanitary importance in a higher salinity than 10,003, or 1.5 per cent sea water. In one case two larvæ found in water with a salinity of 10,048 developed into *A. quadrimaculatus* imagoes, but this observation requires confirmation as to whether this species may complete its entire water cycle in so high a percentage of sea water. The question is raised as to whether *A. quadrimaculatus* larvæ may not withstand a much higher salinity intermittently than continuously. Specimens of *A. quadrimaculatus* transferred from fresh pond water to sea water, salinity 10,160, were all killed within 12 hours.

3. *A. punctipennis* was not found developing in salt or brackish waters. This species breeds under a wider range of conditions than either *A. quadrimaculatus* or *A. crucians*, but apparently does not survive in salt or brackish waters. Larvæ of *A. punctipennis* all died within seven hours when put into sea-water.

ACKNOWLEDGMENTS.

The writer has made free use of quotations from the literature included in the works of Balfour, and of Howard, Dyar, and Knab, and from The Tropical Diseases Bulletin. Grateful acknowledgment is also made of the assistance rendered in the review of the literature and in the preparation of this paper by Associate Sanitarian Bruce Mayne and Dr. M. A. Barber, and to Surg. L. D. Fricks, medical officer in charge of Malaria Investigations; and to Asst. Surg. Gen. H. R. Carter for most valuable advice in conducting the field studies and observations.

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NATIONAL HOSPITAL DAY.

The suggestion that a National Hospital Day be established and celebrated annually on May 12, the birthday of Florence Nightingale, pioneer in modern hospital and nursing methods, has swept the country since it was first suggested, 40 States and 4 Canadian Provinces having organized for it. President Harding has warmly approved the suggestion, and Surg. Gen. Cumming has written the following letter in regard to it to M. O. Foley, who originated the idea:

I heartily approve the suggestion that May 12 be designated annual National Hospital Day, on which special efforts shall be made to diffuse information concerning hospitals.

The public naturally lacks information on many points in regard to hospitals. For instance, although everyone who has tried to rent a house or who reads a daily paper knows that there is a marked shortage in buildings, few people realize that this shortage is particularly marked both in hospitals and in buildings that can be converted into hospitals. Most people, indeed, think that nearly any building can be made over into a hospital.

Such beliefs are due, of course, to lack of information in regard to the essential requirements of both the site and the construction of a hospital building. The site, for instance, must have surroundings that are sanitary both in summer and in winter, an abundant supply of good water, a cheerful outlook, a satisfactory weather exposure, and must be quiet and yet not too far removed from noisy transportation and from markets. The buildings must have, besides the necessary wards, sleeping accommodations (either in themselves or close at hand) for a personnel more than half as great as the expected patients, and also bathing, cooking, and laundry facilities sufficient for a hotel, isolation wards, a laboratory or pharmacy, solidly built operating rooms, and so on. And buildings that are to be converted into hospitals must have rooms that can be altered to meet these needs at reasonable expense.

A National Hospital Day will justify itself if it does no more than to inform the public that barns can not be converted into hospitals, and that at present even barns are by no means easy to come by.

(Signed) H. S. CUMMING,
Surgeon General.

Instructions looking to earnest cooperation in the celebration of the day have been sent to the officers in charge of all Public Health Service hospitals.

AMERICAN PUBLIC HEALTH ASSOCIATION MOVES TO NEW YORK CITY.

The American Public Health Association, on May 1, 1921, removed its offices from Boston to New York, in order to promote closer cooperation with other national health agencies. A National Health Council was recently organized, embracing nine leading national agencies whose major functions relate to health. One of the first steps of the Council was to arrange for the renting of two floors of the Penn Terminal Building in New York City. This building is at 370 Seventh Avenue, adjoining the Pennsylvania Station. The following national health agencies will be housed there: American Social Hygiene Association, National Committee for Mental Hygiene, National Organization for Public Health Nursing, National Tuberculosis Association, American Public Health Association, Bureau of Social Hygiene, Child Health Organization of America, Maternity Center Association, New York Community Service, New York Diet Kitchen Association, and National Health Council.

The American Public Health Association and the other agencies which compose the National Health Council are thus entering upon a practical experiment in coordination. They will also cooperate in varying degrees in the use of a common library, multigraph, dictaphone, mailing, shipping, and similar services, which should result in increased efficiency and decreased expense.

A national headquarters office of the Council has been established at 411 Eighteenth Street NW., Washington, D. C., in addition to the cooperative office in New York.

The officers of the Council are as follows: Dr. Livingston Farrand, chairman; Lee K. Frankel, vice chairman; Dr. C. St. Clair Drake, secretary; Dr. William F. Snow, treasurer (acting); and Dr. Donald B. Armstrong, executive officer (acting).

DEATHS DURING WEEK ENDED APR. 23, 1921.

Summary of information received by telegraph from industrial insurance companies for week ended Apr. 23, 1921, and corresponding week, 1920. (From the "Weekly Health Index," Apr. 26, 1921, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Apr. 23, 1921.	Corresponding week, 1920.
Policies in force.....	46, 621, 006	39, 527, 947
Number of death claims.....	8, 293	8, 045
Death claims per 1,000 policies in force.....	9.3	10.6

Deaths from all causes in certain large cities of the United States during the week ended Apr. 23, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the "Weekly Health Index," Apr. 26, 1921, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population, July 1, 1921.	Week ended Apr. 23, 1921.		Average annual death rate per 1,000. ²	Deaths under 1 year.		Infant mor- tality rate, week ended Apr. 23, 1921. ³
		Total deaths.	Death rate. ¹		Week ended Apr. 23, 1921.	Previous year or years. ⁴	
Akron, Ohio.....	*208,435	30	7.5	12.4	6	11	58
Albany, N. Y.....	115,071	42	19.0	22.9	4 C	5	90
Atlanta, Ga.....	207,473	70	17.6	26.1	5 C	10	.....
Baltimore, Md.....	751,537	193	13.4	18.6	34 A	32	96
Birmingham, Ala.....	186,133	58	16.2	20.5	9 A	6	.....
Boston, Mass.....	757,634	215	14.8	19.2	30 A	42	81
Bridgeport, Conn.....	149,967	30	10.4	18.1	0 A	8	0
Buffalo, N. Y.....	519,608	119	11.9	18.7	18 C	32	70
Cambridge, Mass.....	110,444	31	14.6	17.0	4 A	6	72
Camden, N. J.....	119,672	27	11.8	.....	3	.....	.....
Chicago, Ill.....	2,780,655	656	12.3	16.7	106 A	151	.....
Cincinnati, Ohio.....	403,418	106	13.7	25.7	11 C	19	73
Cleveland, Ohio.....	831,138	159	10.0	18.5	26 C	44	70
Columbus, Ohio.....	215,358	62	13.2	18.9	7 C	9	81
Dallas, Tex.....	165,282	39	12.3	13.5	5 A	4	.....
Dayton, Ohio.....	158,119	35	11.5	15.5	3 C	2	49
Denver, Colo.....	263,152	90	17.8	14.1	13	.....	.....
Detroit, Mich.....	1,070,450	237	11.5	.....	57	.....	108
Fall River, Mass.....	120,668	35	15.1	19.9	8 C	15	120
Grand Rapids, Mich.....	141,197	28	10.3	17.5	4 C	4	68
Houston, Tex.....	144,340	42	15.2	.....	6	.....	.....
Indianapolis, Ind.....	325,215	86	13.8	20.5	7 C	14	54
Kansas City, Kans.....	103,908	34	17.1	.....	6	.....	143
Kansas City, Mo.....	336,157	89	13.8	18.0	14 C	9	.....
Los Angeles, Calif.....	611,636	191	16.3	13.0	18 A	10	85
Louisville, Ky.....	236,083	54	11.9	24.3	3 C	8	35

¹ Annual rate per 1,000 population.

² "A" indicates data for the corresponding week of the years 1913 to 1917, inclusive. "C" indicates data for the corresponding week of the year 1918.

³ Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1920. Cities left blank are not in the registration area for births.

⁴ Enumerated population Jan. 1, 1920.

⁵ Data based on statistics of 1915, 1916, and 1917.

Deaths from all causes in certain large cities of the United States during the week ended Apr. 23, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the "Weekly Health Index," Apr. 26, 1921, issued by the Bureau of the Census, Department of Commerce.)—Continued.

City.	Estimated population, July 1, 1921.	Week ended Apr. 23, 1921.		Average annual death rate per 1,000.	Deaths under 1 year.		Infant mortality rate, week ended Apr. 23, 1921.
		Total deaths.	Death rate.		Week ended Apr. 23, 1921.	Previous year or years.	
Lowell, Mass.	113,757	32	14.7	A 19.0	4	A 8	64
Milwaukee, Wis.	468,396	76	8.5	A 13.9	9	A 23	44
Minneapolis, Minn.	392,815	86	11.4	C 20.0	13	C 16	74
Nashville, Tenn.	119,536	38	16.6	C 37.0	10	C 12	...
New Bedford, Mass.	125,012	29	12.1	A 17.1	4	A 11	61
New Haven, Conn.	167,007	40	12.5	C 20.8	8	C 10	95
New Orleans, La.	394,657	123	16.3	A 19.9	20	A 18	...
New York, N. Y.	5,751,867	1,331	12.1	C 16.7	194	C 252	76
Newark, N. J.	424,885	110	13.5	C 20.1	11	C 31	...
Norfolk, Va.	121,260	25	10.8	...	3	...	53
Oakland, Calif.	226,472	46	10.6	A 10.7	3	A 3	38
Omaha, Nebr.	167,066	55	14.6	...	8	...	...
Paterson, N. J.	137,463	41	15.6	...	7	...	...
Philadelphia, Pa.	1,866,212	503	14.1	A 18.1	78	A 72	94
Pittsburgh, Pa.	506,413	199	17.4	C 34.7	28	C 39	99
Portland, Oreg.	264,859	59	11.6	C 13.3	10	C 5	100
Providence, R. I.	239,645	54	11.8	C 22.6	11	C 19	...
Richmond, Va.	175,686	57	16.9	C 21.5	9	C 13	110
Rochester, N. Y.	305,229	67	11.4	C 14.5	12	C 13	93
St. Louis, Mo.	786,164	191	12.7	C 16.4	14	C 28	...
St. Paul, Minn.	237,781	50	11.0	C 15.1	5	C 7	50
Salt Lake City, Utah	121,595	38	16.3	A 12.8	3	...	46
San Francisco, Calif.	520,546	161	16.1	C 19.9	13	C 13	75
Seattle, Wash.	327,227	58	9.2	A 9.1	5	A 5	42
Spokane, Wash.	104,442	34	17.0	C 9.5	4	C 3	87
Springfield, Mass.	135,877	31	11.9	...	4	...	60
Syracuse, N. Y.	177,265	47	13.8	C 19.4	9	C 18	108
Toledo, Ohio	233,696	48	9.9	A 17.0	5	A 14	50
Trenton, N. J.	122,760	35	14.9	A 22.0	2	A 10	...
Washington, D. C.	454,026	132	15.2	A 17.3	20	A 14	117
Wilmington, Del.	113,408	30	13.8	C 19.8	3	...	...
Worcester, Mass.	184,572	44	12.4	C 22.4	11	C 8	118
Yonkers, N. Y.	103,324	24	12.1	A 10.3	3	A 4	68

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended Apr. 30, 1921.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ALABAMA.		COLORADO.	
	Cases.		Cases.
Chicken pox.....	13	(Exclusive of Denver.)	
Diphtheria.....	7	Chicken pox.....	28
Dysentery.....	8	Diphtheria:	
Hookworm.....	46	Pueblo.....	13
Malaria.....	4	Scattering.....	14
Measles.....	43	Measles.....	103
Ophthalmia neonatorum.....	1	Scarlet fever.....	27
Pellagra.....	4	Smallpox.....	51
Pneumonia.....	4	Typhoid fever.....	3
Scarlet fever.....	4	Whooping cough.....	8
Smallpox:			
Jefferson County.....	33	CONNECTICUT.	
Mobile County.....	17	Cerebrospinal meningitis.....	3
Scattering.....	39	Chicken pox.....	76
Tetanus.....	1	Conjunctivitis (infectious).....	4
Tuberculosis.....	23	Diphtheria:	
Typhoid fever.....	12	New Haven.....	12
Whooping cough.....	21	Scattering.....	47
		German measles.....	3
ARKANSAS.		Influenza.....	13
Chicken pox.....	27	Lethargic encephalitis.....	1
Diphtheria.....	6	Malaria.....	2
Hookworm.....	2	Measles:	
Influenza.....	50	Hartford.....	29
Malaria.....	49	Middletown (C).....	8
Measles.....	95	Norfolk.....	9
Pellagra.....	5	Waterbury.....	15
Scarlet fever.....	3	Scattering.....	41
Smallpox.....	11	Mumps.....	89
Tuberculosis.....	19	Ophthalmia neonatorum.....	1
Typhoid fever.....	3	Pneumonia (lobar).....	36
Whooping cough.....	38	Scarlet fever:	
		Bridgeport.....	25
CALIFORNIA.		New Haven.....	17
Cerebrospinal meningitis.....	4	Scattering.....	52
Influenza.....	70	Septic sore throat.....	1
Paratyphoid fever.....	1	Trachoma.....	2
Pellagra.....	1	Tuberculosis (all forms).....	45
Smallpox:		Typhoid fever.....	2
Oakland.....	9	Whooping cough.....	62
Pomona.....	8		
San Francisco.....	29	DELAWARE.	
Scattering.....	50	Chicken pox.....	5
Typhoid fever.....	7	Diphtheria.....	1

CURRENT STATE SUMMARIES—Continued.

Telegraphic Reports for Week Ended Apr. 30, 1921—Continued.

DELAWARE—continued.		INDIANA.	
	Cases.		Cases.
Influenza.....	1	Cerebrospinal meningitis—Lake County.....	1
Measles.....	3	Diphtheria.....	35
Mumps.....	8	Poliomyelitis:	
Pneumonia.....	2	Lawrence County.....	1
Scabies.....	1	Marion County.....	1
Scarlet fever.....	8	Rabies in animals—Sullivan County.....	1
Tuberculosis.....	5	Scarlet fever.....	170
Whooping cough.....	12	Smallpox.....	132
		Typhoid fever.....	10
FLORIDA.		IOWA.	
Cerebrospinal meningitis.....	1	Diphtheria.....	24
Diphtheria.....	7	Scarlet fever.....	101
Influenza.....	3	Smallpox:	
Malaria.....	15	Center Point.....	20
Pneumonia.....	2	Scattering.....	122
Scarlet fever.....	2		
Smallpox.....	52	KANSAS.	
Typhoid fever.....	16	Cerebrospinal meningitis.....	1
		Chicken pox.....	147
GEORGIA.		Diphtheria.....	81
Chicken pox.....	16	Influenza.....	26
Diphtheria.....	2	Measles.....	395
Dysentery (bacillary).....	38	Mumps.....	16
German measles.....	1	Pneumonia.....	10
Hookworm.....	4	Scarlet fever.....	130
Influenza.....	3	Smallpox.....	165
Malaria.....	54	Tuberculosis.....	35
Measles.....	45	Typhoid fever.....	2
Mumps.....	3	Whooping cough.....	68
Paratyphoid fever.....	2		
Pellagra.....	1	LOUISIANA.	
Pneumonia.....	9	Cerebrospinal meningitis.....	1
Scarlet fever.....	5	Scarlet fever.....	9
Septic sore throat.....	2	Smallpox.....	41
Smallpox.....	37	Typhoid fever.....	15
Tetanus.....	1		
Tuberculosis (pulmonary).....	5	MAINE.	
Typhoid fever.....	10	Cerebrospinal meningitis.....	1
Whooping cough.....	8	Chicken pox.....	13
		Diphtheria.....	15
ILLINOIS.		Influenza.....	7
Cerebrospinal meningitis:		Measles.....	146
Chicago.....	3	Mumps.....	4
Place not stated.....	1	Pneumonia.....	8
Diphtheria:		Scarlet fever.....	27
Chicago.....	166	Septic sore throat.....	1
Scattering.....	64	Smallpox.....	2
Influenza.....	46	Tuberculosis.....	5
Pneumonia.....	222	Typhoid fever.....	5
Scarlet fever:		Whooping cough.....	8
Chicago.....	133		
Magnolia.....	8	MARYLAND. ¹	
Pekin.....	8	Cerebrospinal meningitis.....	2
Peoria.....	10	Chicken pox.....	74
Springfield.....	14	Diphtheria.....	29
Scattering.....	132	Influenza.....	22
Smallpox:		Malaria.....	1
Murphysboro.....	15	Measles.....	178
Scattering.....	123	Mumps.....	70
Typhoid fever.....	14		

¹ Week ended Friday.

CURRENT STATE SUMMARIES—Continued.

Telegraphic Reports for Week Ended Apr. 30, 1921—Continued.

MARYLAND—continued.		MISSOURI.	
	Cases.		Cases.
Ophthalmia neonatorum.....	1	Chicken pox.....	61
Pellagra.....	1	Diphtheria.....	83
Pneumonia (all forms).....	68	Influenza.....	7
Scarlet fever.....	38	Measles.....	178
Septic sore throat.....	2	Mumps.....	55
Smallpox.....	9	Scarlet fever.....	104
Tetanus.....	2	Smallpox.....	163
Trachoma.....	1	Trachoma.....	3
Tuberculosis.....	92	Tuberculosis.....	56
Typhoid fever.....	8	Typhoid fever.....	3
Typhus fever.....	1	Whooping cough.....	121
Whooping cough.....	203		
MASSACHUSETTS.		MONTANA.	
Cerebrospinal meningitis.....	6	Diphtheria.....	5
Chicken pox.....	184	Influenza.....	2
Conjunctivitis (suppurative).....	16	Rocky Mountain spotted or tick fever: Roundup.....	1
Diphtheria.....	146	Scarlet fever.....	12
German measles.....	26	Smallpox.....	52
Influenza.....	25	Typhoid fever.....	6
Lethargic encephalitis.....	1		
Malaria.....	1	NEBRASKA.	
Measles.....	733		
Mumps.....	169	Chicken pox.....	33
Ophthalmia neonatorum.....	28	Diphtheria:	
Pellagra.....	2	Omaha.....	14
Pneumonia (lobar).....	108	Scattering.....	5
Polio-myelitis.....	1	Measles.....	37
Scarlet fever.....	199	Mumps.....	13
Septic sore throat.....	2	Pneumonia.....	2
Smallpox.....	3	Scarlet fever:	
Tetanus.....	1	Antioch.....	12
Trachoma.....	3	Bertrand.....	8
Trichinosis.....	1	Scattering.....	17
Tuberculosis (all forms).....	196	Smallpox:	
Typhoid fever.....	14	Fremont.....	9
Whooping cough.....	158	Omaha.....	17
MINNESOTA.		Walchill.....	19
		Scattering.....	26
Chicken pox.....	13	Tetanus.....	1
Diphtheria.....	46	Tuberculosis.....	1
Influenza.....	1	Whooping cough.....	9
Malaria.....	1		
Measles.....	49	NEW JERSEY.	
Ophthalmia neonatorum.....	1		
Pneumonia.....	4	Chicken pox.....	190
Polio-myelitis.....	1	Diphtheria.....	133
Scarlet fever.....	121	Influenza.....	18
Smallpox.....	213	Malaria.....	2
Trachoma.....	1	Measles.....	392
Tuberculosis.....	48	Pneumonia.....	114
Typhoid fever.....	5	Polio-myelitis.....	1
Whooping cough.....	5	Scarlet fever.....	227
MISSISSIPPI.		Smallpox.....	4
		Typhoid fever.....	3
Cerebrospinal meningitis.....	1	Whooping cough.....	295
Diphtheria.....	15		
Polio-myelitis.....	1	NEW MEXICO.	
Scarlet fever.....	5		
Smallpox.....	31	Chicken pox.....	29
Typhoid fever.....	11	Conjunctivitis.....	1
		Diphtheria.....	31
		Hookworm.....	1
		Malaria.....	1

CURRENT STATE SUMMARIES—Continued.

Telegraphic Reports for Week Ended Apr. 30, 1921—Continued.

NEW MEXICO—continued.

	Cases.
Measles.....	111
Mumps.....	9
Pneumonia.....	8
Scarlet fever.....	19
Septic sore throat.....	1
Smallpox.....	2
Tuberculosis.....	72
Typhoid fever.....	1
Whooping cough.....	39

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis—Yonkers.....	1
Diphtheria.....	232
Influenza.....	41
Lethargic encephalitis.....	3
Measles.....	839
Paratyphoid fever.....	2
Pneumonia.....	205
Poliomyelitis—Binghamton.....	1
Scarlet fever.....	227
Smallpox.....	10
Typhoid fever.....	16
Whooping cough.....	384

NORTH CAROLINA.

Cerebrospinal meningitis.....	5
Chicken pox.....	55
Diphtheria.....	19
German measles.....	1
Measles.....	479
Ophthalmia neonatorum.....	2
Scarlet fever.....	13
Septic sore throat.....	3
Smallpox.....	59
Typhoid fever.....	20
Whooping cough.....	287

SOUTH DAKOTA.

Chicken pox.....	12
Diphtheria.....	13
Influenza.....	4
Measles.....	16
Pneumonia.....	4
Scarlet fever.....	34
Smallpox.....	48
Tuberculosis.....	3
Typhoid fever.....	1
Whooping cough.....	6

TEXAS.

	Cases.
Chicken pox.....	45
Measles.....	145
Mumps.....	32
Pellagra.....	3
Scarlet fever.....	17
Smallpox.....	46
Whooping cough.....	38
Typhus fever—Breckenridge.....	1

VERMONT.

Chicken pox.....	37
Diphtheria.....	2
Measles.....	84
Mumps.....	13
Pneumonia.....	4
Scarlet fever.....	24
Smallpox.....	8
Typhoid fever.....	5
Whooping cough.....	23

WEST VIRGINIA.

Diphtheria.....	10
Measles:	
Elkins.....	20
Scattering.....	13
Scarlet fever.....	15
Smallpox.....	7

WISCONSIN.

Milwaukee:	
Chicken pox.....	35
Diphtheria.....	19
German measles.....	1
Measles.....	2
Scarlet fever.....	33
Smallpox.....	6
Tuberculosis.....	16
Whooping cough.....	15
Scattering:	
Cerebrospinal meningitis.....	1
Chicken pox.....	115
Diphtheria.....	30
German measles.....	4
Influenza.....	53
Measles.....	117
Poliomyelitis.....	3
Scarlet fever.....	166
Smallpox.....	142
Tuberculosis.....	19
Typhoid fever.....	5
Whooping cough.....	103

CURRENT STATE SUMMARIES—Continued.

District of Columbia and Kentucky Reports for Week Ended Apr. 23, 1921.

DISTRICT OF COLUMBIA.		KENTUCKY—continued.	
	Cases.		Cases.
Chicken pox.....	16	Measles—Continued.	
Diphtheria.....	5	Shelby County.....	10
Influenza.....	1	Scattering.....	11
Measles.....	236	Mumps.....	6
Scarlet fever.....	11	Paratyphoid fever.....	1
Smallpox.....	4	Pellagra.....	2
Tuberculosis.....	29	Pneumonia.....	14
Typhoid fever.....	1	Scarlet fever:	
Whooping cough.....	48	Jefferson County.....	18
		Scattering.....	22
		Smallpox:	
		Livingston County.....	42
		Scattering.....	23
		Trachoma.....	5
		Tuberculosis:	
		Jefferson County.....	13
		Scattering.....	7
		Typhoid fever.....	8
		Whooping cough.....	11
KENTUCKY.			
Cerebrospinal meningitis:			
Clark County.....	1		
Davies County.....	1		
Chicken pox.....	10		
Diphtheria:			
Jefferson County.....	11		
Scattering.....	19		
German measles.....	1		
Influenza.....	18		
Measles:			
Jefferson County.....	24		
Perry County.....	28		

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomylitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1921.										
Arizona (March).....		7			257		1	36	25	
California (February).....	11	518	603	12	3,144	1	2	586	1,033	29
California (March).....	19	675	820	19	3,560	1	3	568	746	79
Iowa (March).....	4	102			547		3	475	697	
Maine (March).....	1	69	4		728			111	12	15
Michigan (March).....		878			451		3	1,396	870	60
Mississippi (March).....	4	67	709	4,612	960	331	2	46	380	113
New York (March).....	53	2,887	812		6,249		1	3,645	152	148
Ohio (March).....	11	663	68	1	1,433		1	1,270	1,315	72
Oregon (March).....		79	9		839			52	212	3
Pennsylvania (March).....	13	1,729			5,305		5	3,227	65	119
South Carolina (March).....	1	229		23	458	3	1	8	135	20
Virginia (March).....	7	178	2,352	192	3,833	14	3	244	381	63
Washington (March).....		98	80		471		2	218	608	19

PLAGUE.¹

HUMAN CASES OF PLAGUE REPORTED.

Place.	Period covered.	Cases.	Deaths.	Remarks.
California:	1921.			
San Benito County.....	Feb. 7.....		1	

¹ A summary of the reports received of the occurrence of plague and the finding of plague-infected rodents in the United States during 1920 was published in Public Health Reports, Jan. 7, 1921, p. 15.

PLAGUE—Continued.

PLAGUE-INFECTED RODENTS.

Place.	Period covered.	Rodents found plague infected.
Florida:	1921.	
Pensacola.....	Jan. 1 to Apr. 18.....	5
	Apr. 19 to 30.....	0
Louisiana:	Jan. 1 to Apr. 12.....	34
New Orleans.....	Apr. 13 to 26.....	0
	April 27.....	2

CITY REPORTS FOR WEEK ENDED APR. 16, 1921.

ANTHRAX.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Arkansas:			New York:		
Little Rock.....	1		New York.....	1	
New Jersey:					
Atlantic City.....	1				

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
California:				New Jersey:			
Los Angeles.....	0	6		Elizabeth.....	0	1	
San Francisco.....	0	1		Trenton.....	0	1	
Connecticut:				New York:			
Bridgeport.....	1	3	1	New York.....	10	6	4
New Haven.....	0	1	1	Ohio:			
Stamford.....		1		Cincinnati.....	0	2	1
Illinois:				Pennsylvania:			
Chicago.....	4	4	1	Allentown.....	0	1	
Massachusetts:				Philadelphia.....	3	2	2
Boston.....	2	1		South Carolina:			
Greenfield.....	0		1	Columbia.....	0	2	
Haverhill.....	0	1		West Virginia:			
New Bedford.....	0	1	1	Charleston.....	0	1	
Michigan:				Wisconsin:			
Detroit.....	2	2	1	Milwaukee.....	1	1	
Hamtramck.....		1		Wyoming:			
Port Huron.....	0	2		Cheyenne.....		1	1
Missouri:							
Kansas City.....	0	1					
St. Louis.....	2		1				

DIPHTHERIA.

See p. 1016; also Telegraphic weekly reports from States, p. 1004, and Monthly summaries by States, p. 1008.

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

INFLUENZA.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alabama:			Montana:		
Birmingham.....		1	Anacanda.....		1
Mobile.....			New Jersey:		
California:		1	Bayonne.....	1	
Long Beach.....	2	1	East Orange.....	3	
Los Angeles.....	7	1	Harrison.....	1	
Oakland.....		2	Jersey City.....	2	
San Francisco.....	9	1	Keamy.....	6	
Stockton.....	1		Newark.....	9	
Connecticut:			New York:		
Bridgeport.....	1	1	Binghamton.....	2	
Meriden.....	5		Cohoes.....	1	
New Britain.....	1	1	Jamestown.....	1	
Stonington.....	3		Mount Vernon.....	2	
District of Columbia:			New York.....	176	15
Washington.....	1	1	North Tonawanda.....	4	
Georgia:			Rochester.....	3	
Atlanta.....	2		Ohio:		
Savannah.....		1	Cincinnati.....	1	1
Illinois:			Toledo.....		1
Chicago.....	26	2	Pennsylvania:		
Louisiana:			Philadelphia.....	4	3
Baton Rouge.....	1		South Carolina:		
Maryland:			Charleston.....		1
Baltimore.....	9	4	South Dakota:		
Massachusetts:			Siox Falls.....	3	
Attleboro.....	1		Tennessee:		
Boston.....	9		Nashville.....		2
Cambridge.....	5		Texas:		
Haverhill.....	9		Dallas.....	2	
Quincy.....	1		Waco.....	1	
Saugus.....	3		Virginia:		
Worcester.....	3		Danville.....	2	
Michigan:			Richmond.....		2
Detroit.....	1		Washington:		
Highland Park.....	1		Seattle.....	2	
Minnesota:			Spokane.....	4	
St. Paul.....		1			
Missouri:					
Kansas City.....		4			

LEPROSY.

West Virginia:				
Wheeling.....		1		

LETHARGIC ENCEPHALITIS.

California:			Ohio:		
San Francisco.....	2	1	Akron.....	2	
Illinois:			Wisconsin:		
Oak Park.....		1	Milwaukee.....	1	
Massachusetts:					
Easthampton.....	1				

MALARIA.

Florida:			New York:		
Miami.....	1		New York.....	1	
Georgia:			Texas:		
Atlanta.....	2		Dallas.....	3	1
Valdosta.....	15		Waco.....	2	
Louisiana:					
Alexandria.....	10				

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

MEASLES.

See p. 1016; also Telegraphic weekly reports from States, p. 1004, and Monthly summaries by States, p. 1008.

PELLAGRA.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alabama:			Tennessee:		
Montgomery.....		1	Nashville.....		1
Louisiana:			Texas:		
Baton Rouge.....		1	Dallas.....	2	
New Orleans.....	1	1	Galveston.....		1
Massachusetts:			Virginia:		
Danvers.....	1		Danville.....	1	
North Carolina:					
Durham.....		1			

PNEUMONIA (ALL FORMS).

Alabama:			Indiana:		
Anniston.....	1		East Chicago.....		4
Birmingham.....		5	Fort Wayne.....		1
Mobile.....		1	Gary.....		2
Arizona:			Hammond.....		2
Tucson.....	3		Huntington.....		2
Arkansas:			Indianapolis.....		5
Fort Smith.....	1		La Fayette.....		1
Little Rock.....	2		Logansport.....		1
California:			Muncie.....		1
Bakersfield.....		1	Kansas:		
Eureka.....		1	Coffeyville.....	1	
Long Beach.....		1	Fort Scott.....		1
Los Angeles.....	34	7	Hutchinson.....	1	1
Oakland.....		6	Lawrence.....		2
Pasadena.....	3	2	Topeka.....		2
Riverside.....	1		Wichita.....		2
Sacramento.....		2	Kentucky:		
San Diego.....		4	Covington.....		1
San Francisco.....	13	6	Louisville.....		6
Santa Barbara.....		1	Louisiana:		
Stockton.....		3	Baton Rouge.....	2	
Colorado:			New Orleans.....		9
Colorado Springs.....		2	Maine:		
Denver.....		9	Biddeford.....		1
Pueblo.....	2	1	Lewiston.....		2
Connecticut:			Portland.....		1
Bridgeport.....		5	Maryland:		
Hartford.....	4	1	Baltimore.....	48	20
Meriden.....	1		Cumberland.....		2
New Britain.....		2	Massachusetts:		
New Haven.....		3	Attleboro.....	1	
New London.....	2		Beverly.....		1
Norwalk.....		1	Boston.....	42	25
Stamford.....	12		Brookline.....	2	1
Waterbury.....	5	4	Brookline.....	1	
Delaware:			Cambridge.....	10	3
Wilmington.....		2	Chelsea.....	5	3
District of Columbia:			Easthampton.....	3	2
Washington.....		9	Fall River.....	9	8
Florida:			Gardner.....	1	
Miami.....		2	Haverhill.....	7	6
Georgia:			Holyoke.....		2
Atlanta.....		7	Lawrence.....	5	1
La Grange.....	3		Lowell.....	4	3
Illinois:			Malden.....	4	1
Blue Island.....	1	1	Medford.....	2	
Chicago.....	213	45	New Bedford.....	5	1
Danville.....	1		Newburyport.....		2
East St. Louis.....		2	Newton.....		5
Elgin.....	2		Peabody.....	1	
Evanston.....	1		Fitchfield.....		3
Freeport.....		1	Plymouth.....		1
Galesburg.....		1	Quincy.....	6	2
Jacksonville.....		1	Salem.....	3	
La Salle.....		1	Saugus.....	1	
Oak Park.....	3	1	Somerville.....	2	1
Peoria.....		3	Springfield.....	7	3
Rockford.....	1		Taunton.....		2

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

PNEUMONIA (ALL FORMS)—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Massachusetts—Continued.			New York—Continued.		
Wakefield	1		Olean	3	2
Winthrop	1		Peekskill	2	1
Woburn		1	Rochester	13	10
Worcester		11	Rome	6	
Michigan:			Saratoga Springs	2	
Ann Arbor		2	Schenectady	7	3
Detroit	57	22	Syracuse	8	2
Grand Rapids		2	Troy		6
Hamtramck	6	2	White Plains		1
Kalamazoo		1	Yonkers	16	4
Marquette	1		North Carolina:		
Pontiac	1		Charlotte		1
Port Huron	3		Greensboro		2
Saginaw		2	Wilmington		5
Sault Ste. Marie	1		Ohio:		
Minnesota:			Akron	3	
Duluth		3	Barberton		2
Minneapolis		8	Chillicothe	1	
Rochester	1		Cincinnati		6
St. Paul		5	Columbus		4
Missouri:			Coshocton	1	
Kansas City	15	13	Dayton		1
St. Joseph	1		East Cleveland	5	
Montana:			Lima		1
Butte		1	Marion	1	
Great Falls	1		Piqua		1
Nebraska:			Salem		1
Lincoln	1		Springfield		1
Omaha		6	Toledo		10
Nevada:			Youngstown		2
Reno	1		Zanesville		1
New Hampshire:			Oklahoma:		
Concord		1	Oklahoma City		3
New Jersey:			Oregon:		
Atlantic City		3	Portland		4
Bayonne	1		Pennsylvania:		
Belleville	2		Philadelphia	69	46
Clifton		2	Rhode Island:		
East Orange	4		Cranston		2
Elizabeth		5	Pawtucket		1
Garfield	1		Providence		7
Hackensack	1		South Carolina:		
Harrison	1		Charleston		2
Hoboken		7	Tennessee:		
Irvington	1		Nashville		1
Jersey City	2		Texas:		
Kearny		1	Dallas	10	2
Montclair	1		El Paso		8
Newark	66	14	Galveston		1
Orange	2		Waco		2
Passaic	2	1	Utah:		
Paterson	6		Salt Lake City		4
Perth Amboy		3	Vermont:		
Summit	4	1	Rutland		1
Trenton	4	2	Virginia:		
West Orange	3	1	Norfolk		3
New York:			Portsmouth		4
Albany	5		Richmond		5
Binghamton	9	2	Roanoke		2
Buffalo	30	22	West Virginia:		
Cohoes	1		Charleston		2
Elmira		1	Huntington		1
Ithaca	4	2	Morgantown		1
Jamestown		2	Wheeling		2
Lackawanna	4		Wisconsin:		
Lockport	1		Green Bay		1
Middletown	1		Janesville		1
Mount Vernon	5		Racine		5
New York	370	177	Superior		1
Niagara Falls	4	1	Wausau		1
North Tonawanda		2			

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Illinois:				New Jersey:			
Chicago.....	0	1		Newark.....	0	1	
Iowa:				New York:			
Sioux Falls.....	0	1	1	New York.....	0	1	
Massachusetts:				South Carolina:			
Winthrop.....	0	1		Charleston.....	0	2	
Michigan:							
Detroit.....	0	1					

RABIES IN ANIMALS.

Place.	Cases.	Place.	Cases.
Iowa:		Massachusetts:	
Keokuk.....	1	Fall River.....	2

RABIES IN MAN.

Place.	Cases.	Deaths.
New York:		
New York.....	1	

SCARLET FEVER.

See p. 1016; also Telegraphic weekly reports from States, p. 1004, and Monthly summaries by States, p. 1008.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Illinois:			
Birmingham.....	0	7		Bloomington.....	0	8	
Mobile.....	3	1		East St. Louis.....	2	10	
Montgomery.....	1	1		Elgin.....	0	2	
California:				Evanston.....	0	1	
Long Beach.....	1	1		Freeport.....	0	1	
Los Angeles.....	2	3		Galesburg.....	1	2	
Sacramento.....	0	4		Rockford.....	0	12	
San Francisco.....	2	21		Springfield.....	1	2	
Colorado:				Indiana:			
Colorado Springs.....	0	1		Elkhart.....	0	5	
Denver.....	21	14		Fort Wayne.....	1	6	
Pueblo.....	0	3		Gary.....	3	1	
Florida:				Hammond.....	1	2	
Miami.....		1		Indianapolis.....	3	10	
Georgia:				La Fayette.....	1	4	
Atlanta.....	6	8		Marion.....	1	4	
Macon.....	1	7		South Bend.....	0	12	
				Terre Haute.....	0	13	

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

SMALLPOX—Continued.

Place.	Median for pre- vious years.	Week ended Apr. 16, 1921.		Place.	Median for pre- vious years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Iowa:				Ohio:			
Cedar Rapids.....	5	9	.....	Akron.....	0	2	.....
Clinton.....	0	1	.....	Canton.....	1	18	.....
Council Bluffs.....	2	3	.....	Cincinnati.....	3	3	.....
Davenport.....	11	4	.....	Columbus.....	0	5	.....
Des Moines.....	9	17	.....	Dayton.....	0	1	.....
Dubuque.....	1	1	.....	Hamilton.....	.....	1	.....
Iowa City.....	0	1	.....	Lancaster.....	0	3	.....
Muscatine.....	0	2	.....	Lima.....	1	7	.....
Sioux City.....	1	10	.....	Lorain.....	0	1	.....
Kansas:				Mansfield.....	.....	1	.....
Atchison.....	9	2	.....	Middletown.....	1	2	.....
Coffeyville.....	0	1	.....	Newark.....	0	10	.....
Fort Scott.....	5	2	.....	Toledo.....	1	15	.....
Hutchinson.....	0	8	.....	Oklahoma:			
Lawrence.....	0	1	.....	Muskogee.....	1	3	.....
Parsons.....	1	4	.....	Oklahoma City.....	9	5	.....
Salina.....	5	6	.....	Tulsa.....	5	8	.....
Topeka.....	3	11	.....	Oregon:			
Wichita.....	2	8	.....	Portland.....	2	9	.....
Kentucky:				Pennsylvania:			
Louisville.....	3	2	.....	Connellsville.....	0	1	.....
Paducah.....	0	3	.....	Pittsburgh.....	0	1	.....
Baton Rouge.....	0	2	.....	South Carolina:			
Louisiana:				Charleston.....	0	8	.....
New Orleans.....	6	4	.....	South Dakota:			
Maryland:				Sioux Falls.....	3	10	.....
Baltimore.....	0	1	.....	Tennessee:			
Michigan:				Chattanooga.....	2	2	.....
Battle Creek.....	0	2	.....	Knoxville.....	1	1	.....
Benton Harbor.....	0	4	.....	Nashville.....	0	1	.....
Detroit.....	13	27	.....	Texas:			
Holland.....	0	3	.....	Dallas.....	10	1	.....
Ishpeming.....	0	1	.....	Port Arthur.....	.....	4	.....
Marquette.....	0	1	.....	Waco.....	0	6	.....
Pontiac.....	2	2	.....	Utah:			
Minnesota:				Salt Lake City.....	12	22	.....
Austin.....	.....	3	.....	Vermont:			
Duluth.....	3	16	.....	Rutland.....	0	3	.....
Mankato.....	0	2	.....	Virginia:			
Minneapolis.....	24	83	.....	Richmond.....	0	3	.....
Rochester.....	.....	2	.....	Roanoke.....	1	1	.....
St. Cloud.....	2	12	.....	Washington:			
St. Paul.....	7	54	.....	Aberdeen.....	.....	19	.....
Missouri:				Bellingham.....	0	3	.....
St. Louis.....	9	20	.....	Everett.....	0	1	.....
Montana:				Seattle.....	4	10	.....
Great Falls.....	0	2	.....	Spokane.....	6	33	.....
Missoula.....	0	5	.....	Tacoma.....	0	2	.....
Nebraska:				Vancouver.....	0	11	.....
Lincoln.....	13	6	.....	Yakima.....	6	4	.....
Omaha.....	11	14	.....	West Virginia:			
New Jersey:				Bluefield.....	2	10	.....
Jersey City.....	0	5	.....	Charleston.....	0	1	.....
West Hoboken.....	.....	1	.....	Huntington.....	0	1	.....
West New York.....	.....	5	.....	Wisconsin:			
New York:				Beloit.....	1	1	.....
New York.....	0	2	.....	Green Bay.....	0	1	.....
Syracuse.....	0	3	.....	Kenosha.....	0	1	.....
North Carolina:				La Crosse.....	0	2	.....
Charlotte.....	0	1	.....	Madison.....	2	6	.....
Durham.....	0	5	.....	Marquette.....	0	7	.....
Winston-Salem.....	2	10	.....	Milwaukee.....	5	16	.....
North Dakota:				Oshkosh.....	1	1	.....
Fargo.....	1	4	.....	Racine.....	0	1	.....
Grand Forks.....	1	2	.....	Wausau.....	0	1	.....

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

TETANUS.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
California:			New York:		
Los Angeles.....	1	.....	New York.....	1	.....
Santa Barbara.....	.....	1	Ohio:		
Illinois:			Columbus.....	.....	1
Chicago.....	3	.....	Lima.....	.....	1
Massachusetts:			Texas:		
Clinton.....	1	.....	Galveston.....	.....	1

TRICHINOSIS.

Place.	Cases.	Deaths.
New Jersey:		
Paterson.....	1	.....

TUBERCULOSIS.

See p. 1016, also Telegraphic weekly reports from States, p. 1004.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Minnesota:			
Birmingham.....	1	1	.....	Duluth.....	0	2	.....
Arkansas:				Hibbing.....	0	1	.....
Fort Smith.....	0	2	.....	Minneapolis.....	0	4	.....
Little Rock.....	0	2	.....	Missouri:			
California:				Kansas City.....	1	4	.....
Los Angeles.....	2	1	.....	St. Louis.....	3	1	.....
San Francisco.....	3	4	.....	New Jersey:			
Colorado:				Montclair.....	0	1	.....
Pueblo.....	0	1	.....	Newark.....	1	1	.....
Connecticut:				Passaic.....	0	1	1
New Haven.....	0	3	2	New York:			
District of Columbia:				Buffalo.....	1	1	.....
Washington.....	1	1	.....	Glens Falls.....	0	.....	1
Florida:				Lackawanna.....	0	1	.....
Miami.....	.....	1	.....	New York.....	14	7	.....
Georgia:				Rochester.....	0	2	.....
Macon.....	0	.....	1	Schenectady.....	0	2	.....
Valdosta.....	.....	1	.....	Syracuse.....	0	1	.....
Illinois:				North Carolina:			
Chicago.....	5	3	.....	Charlotte.....	0	1	.....
Mattoon.....	1	1	.....	Ohio:			
Pekin.....	1	1	.....	Canton.....	0	2	1
Rock Island.....	0	1	.....	Middletown.....	0	1	.....
Indiana:				Oklahoma:			
East Chicago.....	0	.....	1	Tulsa.....	0	2	.....
Evansville.....	0	.....	1	Pennsylvania:			
Fort Wayne.....	0	1	.....	Philadelphia.....	6	3	.....
Mishawaka.....	0	1	.....	Pittsburgh.....	2	1	.....
Iowa:				Tennessee:			
Council Bluffs.....	0	1	.....	Nashville.....	1	1	2
Kansas:				Texas:			
Topeka.....	0	1	.....	Beaumont.....	0	.....	1
Kentucky:				Galveston.....	0	1	.....
Covington.....	1	1	.....	Virginia:			
Louisville.....	1	1	.....	Alexandria.....	1	1	.....
Louisiana:				Danville.....	0	.....	1
New Orleans.....	5	1	.....	Norfolk.....	0	1	.....
Maryland:				West Virginia:			
Baltimore.....	3	2	.....	Charleston.....	0	2	.....
Massachusetts:				Fairmont.....	0	1	.....
Fall River.....	0	2	.....	Huntington.....	0	3	.....
Lynn.....	0	1	.....	Parkersburg.....	0	1	.....
New Bedford.....	0	1	.....	Wisconsin:			
Michigan:				La Crosse.....	0	1	.....
Alpena.....	13	8	1	Marinette.....	0	1	.....
Detroit.....	3	9	.....	Superior.....	0	1	.....
Highland Park.....	0	1	.....			
Kalamazoo.....	0	1	.....			

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston.....	17,734				1		1		2	
Birmingham.....	178,270	54			13				4	5
Mobile.....	60,151	18	2		2	1				
Montgomery.....	43,464	12							1	
Arizona:										
Tucson.....	20,292	21				3				3
Arkansas:										
Fort Smith.....	28,811		1		15					
Little Rock.....	64,997				27				8	
North Little Rock.....	14,918		1		8					
California:										
Alameda.....	28,806	2	1				1		2	1
Bakersfield.....	18,638	4	1		14		1		10	
Eureka.....	12,923	7	2				3			
Long Beach.....	55,593	14			21		2		4	1
Los Angeles.....	576,673	134	39		129		23		54	21
Oakland.....	113,361	51	4		2		8			6
Pasadena.....	45,354	7			33					2
Richmond.....	16,843	2	2							
Riverside.....	19,341	6	2		11				2	3
Sacramento.....	65,857	17	6				1			2
San Bernardino.....	18,721	6			6					
San Diego.....	74,683	32	4		23				5	1
San Francisco.....	508,410	135	24	1	16		23		31	13
Santa Barbara.....	19,441	6			1				2	
Stockton.....	40,296	10	1		3		1			
Colorado:										
Colorado Springs.....	30,105	16	3	1	4				6	7
Denver.....	256,369	67	5		61		7			15
Pueblo.....	42,908	11	5		10					1
Trinidad.....	10,906						1			
Connecticut:										
Bridgeport.....	143,538	36	7	1	5		24	1	10	3
Derby.....	11,238	4	1				2			1
Fairfield.....	11,475	0					2			
Hartford.....	138,036	34	8		12		4		4	
Manchester.....	18,370	5					1			
Meriden.....	29,842								1	
Milford.....	10,163	4	1				2		1	
New Britain.....	59,316	17	4	1	16	1	2		1	1
New Haven.....	162,519	30	5		4		26		8	2
New London.....	25,688	3							2	1
Norwalk.....	27,700	15	1						2	2
Stamford.....	35,086		1		10		2			
Stonington.....	10,236	1	1							1
Waterbury.....	91,410	23	4		10		4		5	2
Delaware:										
Wilmington.....	119,168	23	3				3			
District of Columbia:										
Washington.....	437,571	137	13	2	254	1	26	1	29	15
Florida:										
Miami.....	29,549	19	1		12		1			
Georgia:										
Atlanta.....	200,616	54	4		26	1	5		31	5
Brunswick.....	14,413	0	1							
La Grange.....	17,098				14					
Macon.....	52,995	17	2		1					
Savannah.....	85,252	33	1				2		2	1
Valdosta.....	10,783	0								
Idaho:										
Boise.....	21,393	3	1		39		3			
Illinois:										
Alton.....	24,682	0	1		12					
Bloomington.....	28,725	3					1		1	
Blue Island.....	11,424	4								1
Centralia.....	12,491	3								
Chicago.....	2,701,705	606	137	9	410	6	142	8	257	39
Danville.....	33,750	10							4	1
East St. Louis.....	66,740	14			3		4		3	2
Elgin.....	27,454	9	2		20		1			1
Evanston.....	37,215	12	2		7		5		2	
Freeport.....	19,069	7					1			
Galesburg.....	23,834	4			8					

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Illinois—Continued.											
Jacksonville.	15,713	17	1		5		4			1	
La Salle.	13,050	3	1				1				
Mattoon.	13,532	3									
Oak Park.	39,830	16	3		19		3		1		
Pekin.	12,086						3				
Peoria.	76,121	28	3	1	1		18		2	1	
Rockford.	65,651	14			37		10	1		1	
Rock Island.	35,177	5									
Springfield.	59,183	18			11		10			3	
Indiana:											
Bloomington.	11,595	2									
East Chicago.	35,967	17		1		3				2	
Elkhart.	24,277	6			1		9		2		
Elwood.	10,790	4									
Evansville.	85,264	14						4			
Fort Wayne.	36,549	14	7		13		4	1		1	
Frankfort.	11,585	3					1			1	
Gary.	55,378	13	7		2		2			1	
Hammond.	36,004	11	2	1	1		2			1	
Huntington.	14,000	8	5		2		2				
Indianapolis.	314,194	89	2		4		52		3	7	
Kokomo.	30,067	1			1		1				
La Fayette.	22,485	5	2								
Logansport.	21,625	4	2								
Marion.	23,747	10	1		1						
Mishawaka.	15,195	3							2		
Muncie.	36,621	9					9			1	
Richmond.	21,765	2					1				
South Bend.	70,983	14	3	3	3		5		1		
Terre Haute.	69,083	13	3	1			5			1	
Iowa:											
Cedar Rapids.	45,566		1				2				
Clinton.	24,151				7		1				
Council Bluffs.	38,162	2	2				3				
Davenport.	56,727		2		2		5				
Des Moines.	126,468		2		4		3				
Dubuque.	39,141		2				2				
Iowa City.	11,217				15						
Keokuk.	14,423	3			9						
Marshalltown.	15,731				7		5				
Muscatine.	16,068	5			6		3				
Sioux City.	71,227		1				3				
Kansas:											
Arkansas City.	11,253	1			8						
Atchison.	12,630						2				
Coffeyville.	13,452								3		
Fort Scott.	10,693	7									
Hutchinson.	23,293		1				2		2	1	
Lawrence.	12,456	4	1				1				
Leavenworth.	16,912		1		15						
Parsons.	16,028	4			2						
Salina.	15,085	1					1				
Topeka.	50,022	14	1		1		5		11	1	
Wichita.	72,128	27	2		119		9		1	1	
Kentucky:											
Covington.	57,121	13	3				1			1	
Lexington.	41,534	14			2		5				
Louisville.	231,891	83	13	1	13		19		8	7	
Louisiana:											
Alexandria.	17,510	3	3							1	
Baton Rouge.	21,782	4	1		2		1		2	2	
Monroe.	12,675	5									
New Orleans.	387,219	115	5		6	1	1		20	11	
Maine:											
Auburn.	16,985	3			1				1		
Bangor.	25,978						1		1		
Bath.	14,731	3									
Biddeford.	18,008	10			6					1	
Lewiston.	31,791	13			1		2		1	1	
Portland.	69,272	17	1		18					1	
Sanford.	19,691	2							1		
Waterville.	13,351		3		8				1		

May 6, 1921.

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CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Maryland:										
Baltimore.....	733,826	199	21	1	57		14	1	37	35
Cumberland.....	29,837	13							1	2
Massachusetts:										
Adams.....	12,967	1					1			
Amesbury.....	10,036	3					1			
Arlington.....	18,665	2			6		2		2	1
Attleboro.....	19,731	5							1	2
Beverly.....	22,561	5			1		2			
Boston.....	748,060	214	58	2	123	1	60		56	24
Braintree.....	10,580	3					1			1
Brockton.....	66,138		4		1		3		2	
Brookline.....	37,748	11			2		4			
Cambridge.....	109,694	23	6		47		9		3	5
Chelsea.....	43,184	20	4		4		5	1	1	1
Chicopee.....	36,214	3							2	
Clinton.....	12,979	3			1					
Dedham.....	10,792	2					1			
Easthampton.....	11,261	2					1			
Fall River.....	120,485	39	3			1	14		9	3
Gardner.....	16,971	3			19				2	
Greenfield.....	15,462	1					6			
Haverhill.....	53,884	21	7				1		2	3
Holyoke.....	60,293	8			4		1		1	
Lawrence.....	94,270	21	4		4		12		1	
Leominster.....	19,744	0			56				1	
Lowell.....	112,479	25	5	1	7				6	3
Lynn.....	96,148	21	9	3	3		3			4
Malden.....	49,103	13	6		3		1		1	
Medford.....	39,038	2			17		4			
Melrose.....	18,294	4	1		1					1
Methuen.....	15,189	5	1				7			
New Bedford.....	121,217	35	2	1			8			9
Newburyport.....	15,618	7							6	
Newton.....	46,054	12					3		2	
North Adams.....	22,282	2								
Northbridge.....	10,174	7			9				1	2
Norwood.....	12,627	2	1				1			
Peabody.....	19,552	4	1				1			
Pittsfield.....	41,751	8	3		1		1		1	
Plymouth.....	13,045	4								
Quincy.....	47,876	7	1		14		2		4	1
Salem.....	62,529	8			3					1
Saugus.....	10,874	2			16				1	
Somerville.....	93,091	29	6	1	2		8		7	
Southbridge.....	14,245	5			11					2
Springfield.....	129,563	30			2		3		4	3
Taunton.....	37,137	12	1		5		3			
Wakefield.....	13,025	4			1					2
Watertown.....	21,457	4			2		1			
West Springfield.....	13,443	2								
Westfield.....	18,694	4								
Winthrop.....	15,455	3					2			
Woburn.....	16,574	5								2
Worcester.....	179,754	41	4		92		7		10	5
Michigan:										
Alpena.....	11,101						1			
Ann Arbor.....	19,576		4				4		1	
Battle Creek.....	36,164		6							
Detroit.....	903,729	214	111	6	45		84	3	47	22
Grand Rapids.....	137,624	30	8	1			4		9	1
Hamtramck.....	48,615	11	4		7	1				
Highland Park.....	46,499	3	6	1	1		12			
Holland.....	12,166	1					1			
Ironwood.....	15,799	3			9				1	1
Ishpeming.....	10,590	3							1	
Kalamazoo.....	48,858	16	2				7			
Marquette.....	12,718	4								
Pontiac.....	34,273	7	3				2		3	1
Port Huron.....	25,944	6	1	1	1		1		1	
Saginaw.....	61,903	11	1							
Sault Ste. Marie.....	12,096	2	1		4					

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Minnesota:										
Austin.....	10, 118	4								
Duluth.....	98, 917	28	1				8	2	2	1
Mankato.....	12, 469	6			1					
Minneapolis.....	380, 582	86	22		6		53	1	18	5
Rochester.....	13, 722	5			12		1		1	1
St. Cloud.....	15, 873		2		1					
St. Paul.....	234, 595	61	24	3	3	1	27		24	7
Virginia.....	14, 022		3							
Winona.....	19, 143						1			
Missouri:										
Cape Girardeau.....	10, 232	3	1		1		2			
Independence.....	11, 686	4	2							
Kansas City.....	324, 410	98	14		76		6		7	8
St. Joseph.....	77, 939	36	2		12	1	3		2	2
St. Louis.....	772, 897	169	53	1	14		68	1	57	1
Springfield.....	39, 631	11								2
Montana:										
Anaconda.....	11, 668	3								
Billings.....	15, 100	7			9				1	2
Butte.....	41, 611	13								1
Great Falls.....	24, 121	5			10					
Missoula.....	12, 668	8			2	1				
Nebraska:										
Lincoln.....	54, 934	14					4		1	
Omaha.....	191, 601	54	4		29		4			2
Nevada:										
Reno.....	12, 016	4								
New Hampshire:										
Berlin.....	16, 104	2						1		
Concord.....	22, 167	6			2		2			
Dover.....	13, 029				4					
Manchester.....	78, 384	9	5				3		14	
Nashua.....	28, 379	6	2	1	1		3		6	2
New Jersey:										
Asbury Park.....	12, 400	6								
Atlantic City.....	50, 682	13	6		2		2		20	
Bayonne.....	76, 754		4				9		2	
Belleville.....	15, 660	2			1		1			
Bloomfield.....	22, 019	4					2			1
Clifton.....	26, 470	3	6		7				1	
East Orange.....	50, 710	6	2		3		5		1	
Elizabeth.....	95, 682	9	1		29		6		2	
Englewood.....	11, 627	1	1		2		2			
Garfield.....	19, 381	2	2		1		1			
Gloucester City.....	12, 162		1		1					
Hackensack.....	17, 667	3	3							
Harrison.....	15, 721				2		1		1	
Hoboken.....	68, 166	20	5	2	1		4			
Irvington.....	25, 480		2		1		9		1	
Jersey City.....	297, 864		22		13		16		10	
Kearny.....	26, 724	7	1		4		3	1	2	1
Montclair.....	28, 810	4			7		1			
Morristown.....	12, 548	3			13		2		3	
New Brunswick.....	32, 779		10		1		2		3	
Newark.....	414, 216	97	17		28	1	47	1	35	10
Orange.....	33, 268	5					6		1	
Passaic.....	63, 824	10	1		4		2			
Paterson.....	135, 866		7		3		6		23	
Perth Amboy.....	41, 707	11	3		2		1		1	1
Phillipsburg.....	16, 923	7								
Plainfield.....	27, 700	5	1		2	1	4		1	2
Rahway.....	11, 042	1	1				1			
Roosevelt.....	11, 047	3						1		
Summit.....	10, 174	5	1						2	1
Trenton.....	119, 289	23	4		3		8		3	3
Union.....	20, 651	4	4		12					
West Hoboken.....	40, 068	5			2		1		1	
West New York.....	29, 026	2	3				1		1	
West Orange.....	15, 373	4			10		1			
New York:										
Albany.....	113, 344		4		38		1		7	
Binghamton.....	66, 800	14	2		3		7			

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York—Continued.										
Buffalo.....	506,775	144	40	5	49		30		15	10
Cohoes.....	22,987	1								
Elmira.....	45,305	10			5		3		1	
Geneva.....	14,648	5		1						
Glens Falls.....	16,638	6			4					
Hudson.....	11,745	11		1						
Ithaca.....	17,004				1					
Jamestown.....	38,917	12	3		27		3		1	2
Lackawanna.....	17,918	1			1		1		2	
Lockport.....	21,308	2	6		8		1		1	
Middletown.....	18,420						2		2	2
Mount Vernon.....	42,726	11	3		1		2		4	2
Newburgh.....	30,366	10	1				1		5	
New York.....	5,621,151	1,388	361	20	215	2	396	15	427	199
Niagara Falls.....	50,760	7	13		2		11		1	1
North Tonawanda.....	15,482	6	3		1		1			
Ogdensburg.....	14,609	5								
Olean.....	20,506	5					2			
Peekskill.....	15,868	5	1				2		2	
Rochester.....	285,750	70	32		2		16		7	
Rome.....	26,341		2		9		3			
Saratoga Springs.....	13,181	4	9							
Schenectady.....	88,723	23	6		4		3	2	4	1
Syracuse.....	171,717	47	25		34	2	15		5	4
Troy.....	72,013	24	1		11	1			2	1
White Plains.....	21,031	3			1		2		1	
Yonkers.....	100,226	26	12		13		11	1		3
North Carolina:										
Charlotte.....	46,338	13			21		2			5
Durham.....	21,719	3	1		1				1	1
Greensboro.....	19,861	4								
Rocky Mount.....	12,742	4								
Salisbury.....	13,884	2								
Wilmington.....	33,372	20	1		30					
Winston-Salem.....	48,395	13	1		38				4	3
North Dakota:										
Fargo.....	21,961	8			2		1			
Grand Forks.....	14,010		1		2					
Ohio:										
Akron.....	208,435	42	4		13		5		16	
Barberton.....	18,811	10								1
Bucyrus.....	10,425	2					1			
Canton.....	87,091	13	6		6	1	4		1	
Chillicothe.....	15,831	1								
Cincinnati.....	401,247	108	20		31		16		32	15
Cleveland Heights.....	15,236						1			
Columbus.....	237,031	67	4		2		2		3	5
Coshocton.....	10,847		1							
Dayton.....	152,559	44	3		3				1	
East Cleveland.....	27,292				1				2	
Findlay.....	17,021	1	1							
Fremont.....	12,468	7								
Hamilton.....	39,675	8			2		9			1
Kenmore.....	12,683						2		2	
Lancaster.....	14,706	4			6					
Lima.....	41,306	10	1				2			1
Lorain.....	37,255				11		1			
Mansfield.....	27,821	5							2	
Marion.....	27,891		1		1				1	
Middletown.....	53,594	5			2				2	
Newark.....	26,718	7								
Niles.....	13,480	2			41					
Norwood.....	24,906	2					1			
Piqua.....	15,044	3								
Salem.....	10,305	4								
Sandusky.....	22,897	3								
Springfield.....	60,840	15	3		13		17			1
Steubenville.....	28,508	8	1				6			
Toledo.....	243,107	80	11	1	5		9		10	9
Youngstown.....	132,358	29	2		80		5	1	4	2
Zanesville.....	29,569	6								

¹ Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Oklahoma:										
Muskogee.....	30,277				29					
Oklahoma City.....	91,258	21			2		3		3	2
Tulsa.....	72,075		1		9					
Oregon:										
Portland.....	258,288	63	20	2	61		3		2	6
Pennsylvania:										
Allentown.....	73,502		7		12		9		1	
Altoona.....	60,331		2		17					
Ambridge.....	12,730				12		1		1	
Beaver Falls.....	12,802						1			
Bethlehem.....	50,358		2		6		10		1	
Braddock.....	20,879		6							
Bradford.....	15,525						2			
Bristol.....	10,273						2			
Carbondale.....	18,640		3				1			
Carlisle.....	10,916				1					
Carriek.....	10,504				1					
Chambersburg.....	13,171				1		1			
Charleroi.....	11,516						1			
Chester.....	58,030		5		1					
Coatesville.....	14,515						7			
Connellsville.....	13,804						4			
Dickson City.....	11,049		2							
Dubois.....	18,681		1							
Duquesne.....	19,011		2						1	
Easton.....	33,813		4		15					
Erie.....	93,372		4		25		4		3	
Greensburg.....	15,033				1		1			
Harrisburg.....	75,917		2		24		1			
Hazleton.....	32,277		3		3				1	
Homestead.....	20,452		1		3				2	
Johnstown.....	67,327		5		28		3			
Lancaster.....	53,150		5				5			
Lebanon.....	24,643						1		5	
McKeesport.....	45,975		3				1		1	
McKees Rocks.....	16,713		2		1				1	
Meadville.....	14,568		2		4		5			
Monessen.....	18,179				15					
Nanticoke.....	22,614		2		3				2	
New Castle.....	44,938		2		2					
Norristown.....	32,319						1		2	
North Braddock.....	14,928				2					
Oil City.....	21,274		2						2	
Old Forge.....	12,237						2			
Philadelphia.....	1,823,158	482	55	9	87	2	133	3	89	49
Pittsburgh.....	588,193		29		106		46		32	
Pittston.....	18,497						1			
Pottstown.....	17,431		5							
Pottsville.....	21,876		2		15					
Reading.....	107,784		2		24		2			
Scranton.....	137,783		5		9		2			
Shamokin.....	21,201		1							
Steelton.....	13,428				1		1			
Sunbury.....	15,721		1				1			
Uniontown.....	15,692						3		1	
Warren.....	14,256						2			
Washington.....	21,480				1					
West Chester.....	11,717				1				1	
Wilkes-Barre.....	73,833		2		25		9			
Wilkesburg.....	24,403				2		2			
Williamsport.....	36,198		3				1			
York.....	47,512		12				1			
Rhode Island:										
Cranston.....	29,407	12			10	1	1			1
East Providence (town).....	21,793						2			
Newport.....	30,255	10	4				10			1
Pawtucket.....	64,248	20	3				1			
Providence.....	237,595	82	16	1	68	4	10			7
South Carolina:										
Charleston.....	67,957	20	2							1
Columbia.....	37,524		1		49				1	

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHtheria, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

Place.	Population Jan. 1, 1920, sub- ject to cor- rection.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
South Dakota:										
Sioux Falls.....	25,176	2	2		3		2			
Tennessee:										
Chattanooga.....	57,895		1				2			
Knoxville.....	77,818								3	3
Nashville.....	118,342	31	3		4		12		3	1
Texas:										
Beaumont.....	40,422	9							1	
Corpus Christi.....	10,522	3							1	
Dallas.....	158,976	30			199		1		7	2
El Paso.....	77,543	55								13
Galveston.....	44,255	11	1							
Port Arthur.....	22,251	4								
Waco.....	38,500	12			1		2			2
Utah:										
Salt Lake City.....	118,110	22	3		8		7			
Vermont:										
Burlington.....	22,779	9	2		2					1
Rutland.....	14,954	5			6					
Virginia:										
Alexandria.....	18,090	4			18				2	
Danville.....	21,539	7	1		5					
Lynchburg.....	29,966	5			63		3		1	
Norfolk.....	115,777		2		46		4		6	4
Petersburg.....	31,002	12			39		2		2	
Portsmouth.....	54,387	25	1		5		6		1	2
Richmond.....	171,667	45	6		36		3		12	6
Roanoke.....	50,842	12			55					
Washington:										
Aberdeen.....	15,337				2					
Bellingham.....	25,370				4		1			
Everett.....	27,644		1		14		5			
Seattle.....	315,652		2		2		5			
Spokane.....	104,437		3		17		2			
Tacoma.....	96,965		1		2		1			
Vancouver.....	12,637				3					
Walla Walla.....	15,505		1						2	
West Virginia:										
Charleston.....	39,608	9			7		2			
Fairmont.....	17,851				2					
Huntington.....	50,177	18					2			1
Morgantown.....	12,127	1								
Moundsville.....	10,669	2					2			
Parkersburg.....	20,050	8	2							
Wheeling.....	54,322	18	3	1	5		5			
Wisconsin:										
Appleton.....	19,561						11			
Beloit.....	21,284	2			1					
Eau Claire.....	20,880						4			
Fond du Lac.....	23,427	5	1							
Green Bay.....	31,017	5	1		4					
Janesville.....	18,293	4	2							
Kenosha.....	40,472	4	1				4			
La Crosse.....	30,363						3			
Madison.....	38,378	3			1		8		1	
Marinette.....	13,610		1							
Milwaukee.....	457,147		23		4		37		28	
Oshkosh.....	33,162	4								
Racine.....	58,593	20	5				15			
Superior.....	39,624	10	2				6			2
Wausau.....	18,661	6					1		1	
Wyoming:										
Cheyenne.....	13,829	5								

FOREIGN AND INSULAR.

AUSTRALIA.

Poliomyelitis (Infantile Paralysis)—Sydney.¹

Epidemic poliomyelitis (infantile paralysis) was reported present at Sydney, Australia, during the month of February, 1921, and during the first two weeks in March, 1921.

CHILE.

Further Relative to Typhus Fever—Arica.²

Further information, dated March 25, 1921, relative to an outbreak of typhus fever at Arica, Chile, occurring among laborers arrived from Iquique, Chile, February 16, 1921, shows a total to March 25 of 12 cases with 1 death. The infection was stated to have been imported from Humapalca, a mountain locality near the border of Bolivia, typhus fever being reported to be present in that district among Indian inhabitants.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	Mar. 21-31, 1921.		Remain- ing un- der treat- ment Mar. 31, 1921.	Disease.	Mar. 21-31, 1921.		Remain- ing un- der treat- ment Mar. 31, 1921.
	New cases.	Deaths.			New cases.	Deaths.	
Cerebrospinal menin- gitis.....	1	1	a 3	Measles.....	9		8
Chicken pox.....	5	1	5	Paratyphoid fever.....			1
Diphtheria.....	3	1	3	Scarlet fever.....	3		5
Leprosy.....			14	Smallpox.....	1		1
Malaria.....	48		b 55	Typhoid fever.....	8	4	c 23

Disease.	Apr. 1-10, 1921.		Remain- ing un- der treat- ment Apr. 10, 1921.	Disease.	Apr. 1-10, 1921.		Remain- ing un- der treat- ment Apr. 10, 1921.
	New cases.	Deaths.			New cases.	Deaths.	
Cerebrospinal menin- gitis.....	1	1	d 1	Malaria.....	10	1	e 59
Chicken pox.....	13	1	15	Measles.....	6		15
Diphtheria.....	1		3	Scarlet fever.....	9		19
Leprosy.....			14	Smallpox.....	3		a 4
				Typhoid fever.....	4	3	f 25

a From the interior 2; from abroad 1.

b From the interior 37.

c From the interior 18.

d From abroad 1.

e From the interior 38.

f From the interior 16; from abroad 1.

¹ Public Health Reports, Apr. 1, 1921, p. 691.

² Idem, Apr. 29, 1921, p. 963.

DOMINICAN REPUBLIC.**Typhoid Fever—Santiago.**

Under date of March 29, 1921, typhoid fever was reported to be spreading in Santiago, Dominican Republic, more than 150 cases being present. Several deaths were reported.

JAMAICA.**Infectious Disease (Alastrim or Kaffir Pox).**

During the week ended April 9, 1921, 145 new cases of alastrim or Kaffir pox were reported on the island of Jamaica.

Measles—Kingston.

Under date of April 15, 1921, measles was reported present in the city of Kingston, Jamaica, with a large number of cases. The disease is stated not to be notifiable in Jamaica.

MEXICO.**Plague—Tampico.**

A case of plague was reported at Tampico, Mexico, April 28, 1921.

PERU.**Yellow Fever—Trujillo.**

Yellow fever was reported present in Trujillo, Peru, April 28, 1921.

VIRGIN ISLANDS.**Contagious Diseases—March, 1921.**

The occurrence of contagious diseases in the Virgin Islands during the month of March, 1921, has been reported as follows:

Disease.	Cases.	Remarks.
In St. Thomas and St. John:		
Chaneroid.....	4	Imported.
Dysentery.....	3	Unclassified.
Gonorrhea.....	8	6 imported.
Malaria.....	2	1 imported.
Measles.....	1	Do.
Mumps.....	120	
Syphilis.....	2	Secondary.
Tuberculosis.....	2	Chronic pulmonary; 1 imported.
In St. Croix:		
Filariasis.....	1	Bancrofti.
Gonorrhea.....	3	
Measles.....	3	
Syphilis.....	1	
Trachoma.....	8	
Tuberculosis.....	3	Chronic pulmonary.
Uncinariasis.....	1	Necator Americanus.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended May 6, 1921.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India: Madras.....	Mar. 16-22.....	2	2	
Siam: Bangkok.....	Feb. 20-26.....	2	2	

PLAGUE.

Algeria: Oran.....				Dec., 1920. One case.
Ceylon: Colombo.....	Mar. 6-12.....	5	6	
India: Bombay.....	Feb. 27-Mar. 5.....	19	12	Feb. 27-Mar. 5., 1921: Cases, 4,435; deaths, 3,393.
Madras Presidency.....	Mar. 15-22.....	178	122	
Mexico: Tampico.....	Apr. 28.....	1		

SMALLPOX.

Canada: Ontario— Hamilton.....	Apr. 17-23.....	1		
Kingston.....	Apr. 3-9.....	2		
China: Amoy.....	Mar. 6-26.....		3	Present.
Chungking.....	Mar. 6-12.....			
Cuba: Antilla.....	Apr. 10-16.....	2		Numerous cases of "alastrim" reported present. Jan. 16-22, 1921: Deaths, 522.
Nuevitas.....	Apr. 11-17.....	2		
Santiago de Cuba.....	Apr. 1-10.....	22	1	
India: Bombay.....	Feb. 27-Mar. 5.....	42	24	
Karachi.....	Mar. 6-19.....	16		
Madras.....	Mar. 16-22.....	10	4	
Italy: Catania.....				Mar. 21-27, 1921: Cases, 2. (Province.)
Messina.....	Apr. 21-27.....	3	2	In Province, 6 cases.
Japan: Kobe.....	Mar. 25-31.....	1		
Nagasaki.....	Mar. 27-Apr. 3.....	1		
Mexico: Mexico City.....	Mar. 23-26.....	31		Including municipalities in Federal district.
Newfoundland: St. Johns.....	Apr. 9-15.....	1		
Tunis: Tunis.....	Mar. 26-Apr. 1.....	5	3	

TYPHUS FEVER.

Chile.....	Mar. 25.....	12	1	Among laborers arriving from arid region by way of Iquique, Chile, Feb. 16, 1921.
Egypt: Alexandria.....	Mar. 19-25.....	1	1	
Cairo.....	Jan. 20-Feb. 11.....	12	8	
Great Britain: Dublin.....	Mar. 27-Apr. 2.....	1		
Japan: Nagasaki.....	Mar. 21-27.....	1		
Mexico: Mexico City.....	Mar. 20-26.....	12		Including municipalities in Federal district.
Turkey: Constantinople.....	Mar. 27-Apr. 2.....	5		

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**Reports Received During Week Ended May 6, 1921—Continued.****YELLOW FEVER.**

Place.	Date.	Cases.	Deaths.	Remarks.
Peru: Trujillo.....	Apr. 28.....			Present.

Reports Received from Jan. 1 to Apr. 29, 1921.**CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Canton.....	Nov. 1-30.....	7	6	Present.
Changsha.....	Nov. 29.....			Do.
Chungking.....	do.....			Aug. 1-Dec. 2, 1920: Cases, 24,017; deaths, 13,329.
Chosen (Korea).....	do.....			Sept. 26-Oct. 9, 1920: Deaths, 2,672. Oct. 31-Dec. 11, 1920: Deaths, 7,184. Jan. 2-22, 1921: Deaths, 3,081.
India:				
Bombay.....	Dec. 5-11.....	2	2	
Do.....	Jan. 16-Feb. 26.....	4	2	
Calcutta.....	Oct. 31-Dec. 25.....	321	283	
Do.....	Dec. 26-Mar. 5.....	542	438	
Madras.....	Dec. 12-18.....	77	44	
Do.....	Dec. 26-Mar. 12.....	207	114	
Rangoon.....	Nov. 23-Dec. 25.....	9	8	
Do.....	Dec. 26-Feb. 5.....	22	20	
Indo-China.....				July 1-31, 1920: Cases, 136; deaths, 98.
Saigon.....	Dec. 27-Feb. 27.....	7	4	Including surrounding country.
Japan:				
Taiwan Island (Formosa).....	Nov. 11-Dec. 31.....	219	93	
Do.....	Jan. 1-20.....	2		
Java:				
West Java—				
Bandoeng.....	Oct. 29-Nov. 11.....	2	1	
Batavia.....	Nov. 25-Dec. 1.....	1		
Philippine Islands:				
Manila.....	Nov. 7-Dec. 23.....	9		
Do.....	Jan. 9-Mar. 5.....	11		
Provinces—				
Cagayan.....	Oct. 3-Nov. 20.....	11	9	
Samar.....	Aug. 1-7.....	1	1	
Poland.....				Oct. 1-31, 1920: Cases, 26; deaths, 13. Mar. 15, 1921: Cases present, 86 among prisoners; 8 in civil population; 2 among military.
Eastern frontier—				Present.
Bialystok.....	Dec. 16.....			Do.
Galicia.....	Nov. 1-30.....	19	11	Do.
Grodno.....	do.....			Present in Russian prison camp
Olitza.....	do.....			Mar. 1, 1921: Cases, 31.
Posen.....	do.....			
Stralkowo.....	do.....			
Streino.....	do.....	1	1	
Warsaw.....	Oct. 1-31.....	2		In district.
Do.....	Dec. 16.....	5		Nov. 1-30, 1920: Cases, 7; deaths, 2.
Russia:				
Lithuania.....				Feb. 19, 1921: Cases reported, 35; mortality, 30 per cent.
Latvia—				Present.
Riga.....	Jan. 22.....			
Siam:				
Bangkok.....	Oct. 9-Nov. 7.....	7	1	
Do.....	Dec. 26-Jan. 22.....	3		

PLAGUE.

Algeria:				
Algiers.....	Nov. 1-Dec. 31....	3	1	
Do.....	Jan. 1-31.....	3	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Argentina: Rosario.....	Feb. 1-23.....		3	Jan. 1-31, 1921; 3 plague rodents found.
Azores: St. Michaels.....				Total, Oct. 1-Dec. 10, 1920: Cases, 149; deaths, 49. In vicinity of Ponta Delgada.
Brazil: Ponta Delgada.....	Feb. 5-11.....	1		
Bahia.....	Oct. 31-Dec. 18.....	6	4	
Do.....	Dec. 26-Mar. 12.....	14	4	
Ceara.....	Oct. 17-Feb. 5.....		16	
Pernambuco.....	Oct. 18-Dec. 5.....	1	3	
Porto Alegre.....	Nov. 14-Dec. 11.....		2	
Do.....	Dec. 26-Feb. 19.....		7	
British East Africa: Kenya Colony—				Outbreak Nov. 8, 1920: Cases reported, 1,067.
Kisumu.....	Oct. 31-Dec. 25.....			Present.
Do.....	Dec. 26-Feb. 12.....			Do.
Mombassa.....	Oct. 31-Dec. 25.....	2	2	Do.
Do.....	Dec. 26-Jan. 13.....			
Nairobi.....	Oct. 31-Dec. 25.....	16	11	
Do.....	Jan. 2-Feb. 5.....	19	15	Pneumonic, present.
Uganda.....	Oct. 21-Dec. 25.....	111	103	Entire protectorate.
Do.....	July 1-Nov. 5.....	259	63	Do.
Ceylon: Colombo.....	Nov. 7-Dec. 18.....	18	60	
Do.....	Jan. 16-Mar. 5.....	102	87	
Chile: Antofagasta.....	Nov. 21-Dec. 5.....	6	2	
Do.....	Dec. 27-Jan. 2.....	2		
China: Chihli Province.....				Mar. 11, 1921: Present on Tientsin & Pukow R. R., 70 miles east of Tientsin. Pneumonic. Reappearance of plague reported Apr.-12, 1921.
Peking.....	Jan. 25.....		1	Chinese quarter.
Sang Yuan.....	Mar. 3.....		50	In Northern Shantung Province.
Hongkong.....	Nov. 7-Dec. 18.....	6	6	
Do.....	Jan. 9-Feb. 12.....	6	6	
Hwangshui.....	Feb. 12.....			A few cases reported.
Kwantung Province.....	Dec. 29.....			Reported present in Tapu district. Mar. 7, 1921: Recurrence.
Manchuria Province—				
Changchun.....	Feb. 18.....	15		
Harbin.....	Feb. 2-Mar. 26.....		148	West of Harbin, Feb. 7, 1921, 400 fatal cases reported. Feb. 14, 1921, fatal cases, 1,200. To Mar. 14, 1921: 4,000 fatal cases. Pneumonic. Fatal cases reported daily, about 40. Apr. 13, improving; east of Harbin, more serious.
Manchuria station.....	Jan. 1-Mar. 10.....		283	Prevalent. Pneumonic.
Mukden.....	Feb. 20-26.....			Present.
Tsitsihar.....	Feb. 2-Mar. 10.....			Two plague rats found, Dec. 20 and Dec. 31, 1920.
Shanghai.....				
Ecuador: Guayaquil.....	Nov. 16-Dec. 31.....	111	36	
Do.....	Jan. 1-Feb. 28.....	175	59	
Egypt: Cities—				Jan. 1-Dec. 30, 1920: Cases, 462; deaths, 209. Jan. 1-Mar. 10, 1921: Cases, 33; deaths, 19.
Alexandria.....	Jan. 17-Mar. 6.....	2	1	
Port Said.....	Oct. 22-28.....	1	1	
Do.....	Jan. 22.....	1	1	
Suez.....	Nov. 18-27.....	10	3	
Do.....	Jan. 5-Mar. 3.....	12	10	Pneumonic, 6 cases; septicemic, 1 case.
Province—				
Assiout.....	Nov. 21.....	3	2	
Girgeh.....	Mar. 7.....	3		
Minch.....	Feb. 14-Mar. 3.....	5	1	
France: Marseille.....	June-Aug. 31.....	58	20	
Paris.....	June-Oct. 15.....	50	11	In suburbs, June-Nov. 2, 1920: Cases, 38; deaths, 19.
Do.....				Jan. 1-13, 1921: Cases, 3; deaths, 1. (Suspect.)

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Great Britain:				
Dublin.....				1 case reported Dec. 15, 1920; date of occurrence, Oct. 18, 1920.
Liverpool.....				Plague-infected rat found, period Nov. 28-Dec. 11, 1920.
Greece:				
Kavala.....	Oct. 25-Nov. 7.....	2		
India:				
Bombay.....	Nov. 29-Dec. 25.....	6	6	Oct. 24-Dec. 25, 1920: Cases, 21,376; deaths, 14,874. Jan. 2, Feb. 26, 1921: Cases, 36,852; deaths, 28,747.
Do.....	Dec. 26-Feb. 26.....	38	29	
Calcutta.....	Nov. 14-20.....	46	44	
Do.....	Jan. 30-Feb. 12.....	1	1	
Karachi.....	Dec. 25-31.....	2	2	
Madras.....	Dec. 5-25.....	7	4	
Do.....	Jan. 9-29.....	3	1	
Madras Presidency.....	Nov. 14-Dec. 25.....	4,349	2,991	
Do.....	Dec. 26-Mar. 12.....	9,745	7,063	
Rangoon.....	Oct. 31-Dec. 25.....	30	28	
Do.....	Dec. 26-Feb. 19.....	92	84	
Indo-China.....				July 1-31, 1920: Cases, 98; deaths, 74.
Saigon.....	Dec. 27-Feb. 27.....	8	4	Including surrounding country.
Java:				
West Java—				
Batavia.....	Nov. 21-Dec. 1.....	3	3	
Do.....	Jan. 13-26.....	1	3	
Jugoslavia:				
Cattaro.....	Feb. 23.....	3		Among French troops.
Madagascar:				
Tamatave.....	Mar. 9.....			Present.
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	25	7	
Mexico:				
Carbonera.....	Dec. 5-20.....	3	1	State of San Luis Potosi. Dec., 1920-Feb. 12, 1921: Cases, 21.
Do.....	Dec. 26-Jan. 8.....	3		State of San Luis Potosi.
Cerritos.....	Dec. 5-20.....	7	8	
Do.....	Dec. 26-Feb. 5.....	5		
Tampico.....	Mar. 23-Apr. 18.....	7	2	Total plague cases, Jan. 1-Apr. 19, 1921: 9.
Vera Cruz.....				Mar. 21-Apr. 10, 1921: Four plague-infected rodents found. Mar. 14, 1921: Rodent plague present.
Paraguay:				
Asuncion.....	Feb. 4.....	1	1	
Peru:				
Departments—				July-December, 1920: Cases, 292; deaths, 136. Jan.-Feb. 28, 1921, Cases, 141; deaths, 71.
Callao-Lima.....				July-December, 1920: Cases, 23; deaths, 10. Jan. 1-31, 1921: Cases, 3; deaths, 2.
Callao.....	Feb. 1-15.....	2		
Libertad.....	do.....	1		
Trujillo-Salaverry.....	Dec. 27-Mar. 27.....	33	8	
Lima.....	Feb. 1-15.....	14	4	
Piura.....	do.....	21	10	
Porto Rico:				
San Juan.....	Feb. 18-25.....	7	2	Feb. 17-Mar. 3, plague rats found, 19.
Portuguese West Africa:				
Angola—				
Loanda.....				Mar. 18-Apr. 8, 1921: Rat plague present.
Russia:				
Batum.....	Nov. 24-Dec. 3.....	38		Epidemic outbreak.
Siberia—				
Vladivostok.....	Apr. 22.....			Prevalent. A few deaths among Chinese.
Siam:				
Bangkok.....	Dec. 5-11.....	1	1	
Straits Settlements:				
Singapore.....	Oct. 31-Nov. 6.....	1	1	
Do.....	Feb. 13-19.....	1	1	
Tunis:				
Ben Gardane.....				June-July, 1920: Cases, 6. November-December, 1920: Cases, 10, in surrounding territory.
Zarzis.....	Jan. 25.....	1		Jan. 15, 1921: Ten cases notified in vicinity. (Corrected report received Mar. 30, 1921.)

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Turkey:				
Constantinople.....	Nov. 21-27.....	1	2	
Union of South Africa:				
Orange Free State—				
Hoopstad district.....	Nov. 28-Dec. 18....	3	1	1 European, 2 natives. On Vryheid Farm. (Public Health Reports, June 25, 1920, p. 1560.)
Do.....	Jan. 23-Feb. 5.....	1	1	1 European: On farm.
Kroonstad district.....	Jan. 23-Feb. 26....	4	3	On farms. Plague-infected wild rodents found.
On vessel:				
S. S. Kronprincessan Victoria.	Jan. 15.....			At Stockholm, Sweden. Rat plague found. Vessel left Buenos Aires, Argentina, Nov. 17, 1920. Stopped at Goteborg and Malmo, Sweden. Left Malmo Jan. 11, 1921. Rats found dead Jan. 13, 1921, at Stockholm.

SMALLPOX.

Algeria:				
Algiers.....	Jan. 1-31.....	5		Aug. 29 Dec. 23, 1920: Cases, 75.
Austria.....				
Azores:				
Ponta Delgada.....	Dec. 18-21.....	7		
Bolivia:				
La Paz.....	Oct. 1-Dec. 31....	19	7	
Brazil:				
Bahia.....	Oct. 31-Dec. 25....	6		
Do.....	Jan. 8-15.....	4		
Pernambuco.....	Oct. 18-Dec. 19....	102	2	
Do.....	Dec. 27-Jan. 30....	36		
Rio de Janeiro.....	Oct. 21-Dec. 25....	108	24	
Do.....	Dec. 26-Feb. 5.....	21	6	
Sao Paulo.....	Dec. 13-19.....		1	
British East Africa:				
Kenya Colony—				
Mombasa.....	Jan. 23-29.....	1		May 1-June 30, 1920: Cases, 272.
Uganda.....				
Bulgaria:				
Sofia.....	Nov. 7-13.....	2		
Canada:				
Alberta—				
Calgary.....	Dec. 12-18.....	2		
Do.....	Jan. 2-Apr. 9.....	15		
British Columbia—				
Fernie.....	Feb. 6-12.....	2		
Vancouver.....	Dec. 5-11.....	1		
Do.....	Dec. 26-Mar. 19....	21		
Victoria.....	Jan. 30-Mar. 5.....	5		
Manitoba—				
Winnipeg.....	Jan. 16-Mar. 19....	17		
New Brunswick:				
Bonaventure and				
Gaspé Counties.....	Feb. 1-Mar. 3.....	16		From lumber camp on Canadian Government R. R., Feb 5, 1921, 5 cases.
Campbellton.....	Jan. 9-15.....			Present.
Gloucester County.....	Jan. 23-29.....	1		
Madawaska County.....	Jan. 30-Feb. 19....	2		
Northumberland				
County.....	Mar. 6-12.....	1		
Restigouche County.....	Dec. 12-18.....	1		
Do.....	Feb. 6-19.....	2		
St. Stephen.....	Feb. 27-Mar. 5.....	1		
York County.....	do.....	6		
Nova Scotia—				
Sydney.....	Feb. 13-Apr. 9.....	18		
Yarmouth.....	Jan. 9-Mar. 26....	8		
Ontario:				
Hamilton.....	Dec. 19-31.....	9		November-December, 1920: Cases, 992; deaths, 5. Jan. 1-31, 1921: Cases, 902; deaths, 3.
Do.....	Jan. 2-Apr. 16....	73		
Kingston.....	Dec. 26-Mar. 26....	11		
London.....	Jan. 2-Apr. 9.....	35		
Montreal.....	Jan. 2-Apr. 16....	14		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Ontario—Continued.				
Niagara Falls.....	Dec. 12-18.....	1		
North Bay.....	Dec. 12-25.....	4		
Do.....	Jan. 2-Apr. 16.....	33		
Ottawa.....	Dec. 12-25.....	75	1	
Do.....	Dec. 26-Apr. 16.....	718	2	
Peterborough.....	do.....	3		
Prescott.....	Apr. 3-9.....	1		
Sarnia.....	Feb. 20-Mar. 5.....	2		
Sault Ste. Marie.....	Jan. 9-Feb. 12.....	48		Mar. 27-Apr. 2, 1921: Present.
Toronto.....	Dec. 12-25.....	7		
Do.....	Dec. 26-Apr. 16.....	71		
Quebec—				
Quebec.....	Jan. 28-Feb. 19.....	2		
Saskatchewan—				
Moose Jaw.....	Dec. 19-25.....	1		
Do.....	Jan. 2-Apr. 2.....	43		
Regina.....	Dec. 12-25.....	11		
Do.....	Jan. 2-Apr. 14.....	55		
Saskatoon.....	Dec. 16-22.....	20		
Do.....	Jan. 9-Mar. 26.....	28		
Ceylon:				
Colombo.....	Nov. 21-Dec. 25.....	18	7	
Do.....	Dec. 26-Feb. 19.....	5	2	
Chile:				
Antofagasta.....	Mar. 21-27.....	1		
Iquique.....				Epidemic with high mortality.
Coquimbo.....	Feb. 13-19.....	2		
China:				
Amoy.....	Nov. 7-Dec. 25.....		7	
Do.....	Dec. 26-Mar. 5.....		7	
Antung.....	Dec. 20-26.....	1		
Do.....	Jan. 10-Mar. 6.....	3	3	
Canton.....	Dec. 1-31.....			Present.
Do.....	Jan. 1-Feb. 28.....			Do.
Chungking.....	Nov. 7-Dec. 25.....			Do.
Do.....	Dec. 26-Mar. 5.....			Do.
Foochow.....	Nov. 7-Dec. 25.....			Do.
Do.....	Dec. 26-Mar. 5.....			Do.
Hankow.....	Jan. 2-22.....	2		
Hongkong.....	Jan. 16-Feb. 19.....	11	6	
Manchuria Province—				
Dairen.....	Nov. 16-Dec. 20.....	12	3	
Do.....	Dec. 22-Mar. 6.....	375	53	
Mukden.....	Dec. 12-18.....			Prevalent.
Do.....	Jan. 16-Feb. 28.....			Present.
Nanking.....	Nov. 14-Dec. 18.....			Do.
Do.....	Dec. 26-Mar. 19.....			Do.
Shanghai.....	Feb. 7-13.....	1		
Tientsin.....	Nov. 14-Dec. 4.....	2		Dec. 12-25, 1920: Cases, 160; in camp for famine refugees.
Do.....	Dec. 26-Mar. 5.....	9		In camp for famine refugees, 477.
Tsinanfu.....	Oct. 31-Nov. 12.....	20		Statistics of Shantung Christian Hospital.
Tsingtau.....	Jan. 2-Mar. 13.....	5	2	
Chosen (Korea):				
Chemulpo.....	Dec. 1-31.....	1		
Fusan.....	Nov. 1-30.....	1		
Do.....	Jan. 1-31.....	4	1	
Gensan.....	Dec. 1-31.....	15	12	
Do.....	Jan. 1-31.....	24	8	
Colombia:				
Barranquilla.....	Jan. 16-Mar. 12.....			Present.
Santa Marta.....	Dec. 5-25.....			Do.
Do.....	Dec. 26-Apr. 2.....			Do.
Cuba:				
Antilla.....	Dec. 7-27.....	10		For port of Preston.
Do.....	Jan. 2-Apr. 2.....	87		Do.
Camaguey Province.....				Reported seriously prevalent during January, 1921. Mar. 17, 1921: 386 cases reported.
Cienfuegos.....	Mar. 13-Apr. 2.....	3		1 from Jatibonico, Cuba; 1 from Jamaica.
Habana.....	Dec. 31-Feb. 16.....	11		Vicinity of Nuevitas. Dec. 6-12 1920: 1 case.
Lugareno.....	Mar. 7-13.....	2		
Matanzas.....	Jan. 2-29.....	6		
Nuevitas.....	Dec. 6-19.....	2		
Do.....	Jan. 3-Apr. 10.....	39		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Cuba—Continued.				
Oriente Province	Nov. 20-Dec. 10	25		Mar. 17, 1921: 394 cases reported.
Santiago	Feb. 1-Mar. 30	299		"Alastrim" reported present cases, estimated, about 1,000; July 11-Aug. 14, 1920: Cases, 141; deaths, 29.
Do.				
Czechoslovakia	Dec. 5-18	2		
Danzig				
Dominican Republic	Jan. 9-Feb. 19	13	1	Nov. 15-Dec. 25, 1920: Cases, 9; occurring in 4 localities.
Santo Domingo				
Ecuador:				
Guayaquil	Nov. 16-Dec. 31	33	2	
Do.	Jan. 1-Feb. 28	43		
Egypt:				
Alexandria	Dec. 17-31	3	1	
Do.	Jan. 1-Mar. 11	19	2	
Cairo	Oct. 1-Dec. 9	3		
Do.	Jan. 8-14	1		
Port Said	Nov. 19-Dec. 31	1	1	
Do.	Jan. 8-14		1	
France:				
Paris	Nov. 1-30	2	1	
Do.	Jan. 1-31	7	1	
Rouen	Nov. 21-Dec. 31	7	2	
Do.	Feb. 13-Mar. 19	4	1	
St. Etienne	Dec. 3-15	2	1	
Do.	Jan. 23-Feb. 12	3		
Germany				Aug. 29-Nov. 6, 1920: Cases, 40.
Great Britain:				
Glasgow	Dec. 25	11	2	
Do.	Jan. 2-Mar. 19	23	8	
Liverpool	Jan. 30-Feb. 5	1		
London	Dec. 26-Jan. 1	1		
Greece:				
Saloniki	Nov. 15-Dec. 26	39	14	In surrounding country: Cases, 21; deaths, 2.
Do.	Dec. 27-Feb. 5	21	18	Sept. 22, 1920-Jan. 8, 1921: Cases, 2,262; deaths, 64.
Haiti:				
Cape Haitien	Feb. 13-Apr. 2	50		In 8 interior towns, 20 cases. In one locality, 18 cases. In country districts, vicinity of Port au Prince, cases numerous. From date of outbreak to Feb. 11, 1921: Cases, 2,874; deaths, 221.
Port au Prince	Sept. 22-Dec. 2	486	2	
Honduras:				
Ceiba	Feb. 13-Mar. 5	4		
India:				
Bombay	Nov. 7-Dec. 25	11	3	Sept. 25-Oct. 9, 1920: Deaths, 250. Oct. 31-Dec. 11, 1920: Deaths, 3,902. Dec. 19-25, 1920: Deaths, 353. Dec. 26, 1920-Jan. 22, 1921: Deaths, 1,741.
Do.	Dec. 26-Feb. 26	149	34	
Calcutta	Dec. 5-11	2	2	
Do.	Jan. 2-Mar. 5	17	10	
Karachi	Jan. 10-Mar. 5	29	2	
Madras	Nov. 14-Dec. 18	7	5	
Do.	Dec. 26-Mar. 12	26	11	
Rangoon	Nov. 21-Dec. 25	5	1	
Do.	Jan. 2-Feb. 19	9	1	
Indo-China				July 1-21, 1920: Cases, 107; deaths, 24.
Italy:				
Catania	Nov. 20-Dec. 5	1		In Province, Nov. 20-Dec. 26, 1920: Cases, 43. Jan. 2-10, 1921: Cases, 32. Jan. 17-Mar. 20, 1921: Cases, 78.
Do.	Feb. 14-Mar. 12	11		Dec. 5, 1920-Jan. 2, 1921: Cases, 15.
Genoa	Feb. 7-17	3		
Messina (city and Province)	Jan. 3-Mar. 20	49	9	
Palermo	Oct. 39-Dec. 27	410	124	
Do.	Jan. 23-Mar. 8	238	35	
Japan:				
Kobe	Mar. 16-22	4		
Java:				
West Java				Nov. 12-Dec. 29, 1920: Cases, 72; deaths, 6. Jan. 6-12, 1921: One case, 1 death.
Bandong	Nov. 19-25	1	1	
Do.	Feb. 3-9	1	1	
Batavia	Nov. 12-Dec. 25	14	5	
Do.	Jan. 27-Feb. 23	7	2	
Buitenzorg	Feb. 10-23	12	2	
Garoet	Jan. 27-Feb. 16	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java—Continued.				
West Java—Continued.				
Indramayoe.....	Nov. 12-Dec. 29...	1		
Krawang.....	do.....	1		
Do.....	Jan. 13-Feb. 23.....	29	7	
Lebak.....	do.....	30	10	
Pandeglang.....	Jan. 27-Feb. 23.....	15	2	
Jugoslavia.....	July 25-Aug. 28.....	128	42	Feb. 7-13, 1920: Cases, 122; deaths, 27.
Belgrade.....	Feb. 27-Mar. 5.....	1		
Zagreb.....	Jan. 9-Mar. 5.....	4	1	
Luxembourg.....	Dec. 15-Jan. 1.....	1		
Madagascar:				
Tananarive.....	Jan. 17-23.....		2	
Madeira:				
Funchal.....	Dec. 5-18.....		2	
Do.....	Dec. 26-Mar. 19.....		9	
Mesopotamia:				
Bagdad.....	Nov. 1-Dec. 31.....	2		
Do.....	Jan. 1-31.....	1	2	
Mexico:				
Chihuahua.....	Dec. 6-26.....	11	3	
Do.....	Dec. 27-Apr. 3.....		16	
Ciudad Juarez.....	Mar. 21-27.....		1	
Guadalajara.....	Dec. 1-31.....	1		
Do.....	Jan. 1-31.....	1		
Mexico City.....	Nov. 14-Dec. 25.....	17		Including municipalities in the Federal district.
Do.....	Jan. 2-Mar. 19.....	127		Do.
Monterey.....	Mar. 29-Apr. 4.....		4	
Salina Cruz.....	Jan. 1-Mar. 31.....	5	1	
San Luis Potosi.....	Feb. 6-12.....		1	
Tecate.....	Jan. 17.....	3		
Torreon.....	Jan. 1-Feb. 28.....	6	3	
Newfoundland:				
Bonne Bay.....	Mar. 26-Apr. 1.....	1		
Grand Falls.....	Mar. 12-18.....	1		
Lewisport.....	Apr. 2-8.....			Present.
St. John's.....	Jan. 22-26.....			
Norway.....	Jan. 23-29.....	3		
Panama:				
Colon.....	Jan. 5-Apr. 5.....	108		
Poland.....				Sept.-Oct., 1920: Cases, 175; deaths, 37.
Warsaw.....	Sept. 1-30.....	3		
Portugal:				
Lisbon.....	Nov. 28-Dec. 18.....		5	
Do.....	Dec. 26-Mar. 26.....		17	
Portuguese East Africa:				
Chai-Chai.....	Jan. 9-29.....			Present.
Chinde.....	Jan. 2-8.....			Do.
Gaza district.....	Dec. 18-23.....			Do.
Inhambane district.....	Dec. 26-Jan. 8.....			Do.
Lourenco Marques.....	Oct. 24-Dec. 11.....	10		Reported present in interior of Chia-Chai district.
Quelimane.....	do.....	3		
Rumania:				
Bessarabia Province.....	Jan. 1-27.....	202		
Bucharest.....	Nov. 1-30.....	1		
Cernowitz.....	Jan. 1-31.....	5	1	
Galatz.....	Dec. 1-31.....	1		
Jassy.....	Nov. 1-Dec. 31.....	7	1	
Kiseneff.....	Jan. 1-Mar. 18.....	18		District.
Russia:				
Esthonia Province.....				Dec. 1-31, 1920: Cases, 17. Jan. 1-Feb. 28, 1921: Cases, 50, not including cases in military hospitals.
Reval.....	Oct. 1-Nov. 30.....	28		
Latvia—				
Riga.....	Nov. 1-Dec. 31.....	17		
Do.....	Feb. 1-28.....	21		
Siberia—				
Vladivostok.....	Oct. 1-Dec. 31.....	3	1	
Siam:				
Bangkok.....	Feb. 13-19.....	1		
Spain:				
Barcelona.....	Nov. 18-Dec. 29.....		13	
Do.....	Jan. 13-Mar. 30.....		90	
Corunna.....	Dec. 12-18.....		1	
Madrid.....	Nov. 1-30.....		1	
Do.....	Feb. 6-13.....		1	Year ended Dec. 31, 1920: Deaths, 9.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Spain—Continued.				
Malaga.....	Oct. 1–Dec. 31.....		77	
Do.....	Jan. 1–Feb. 28.....		32	
Tarragona.....	Jan. 30–Feb. 19.....		2	
Valencia.....	Dec. 5–25.....	3		
Do.....	Dec. 26–Mar. 26.....	21	2	
Syria:				
Aleppo.....	Nov. 14–Dec. 4.....			Dec. 12–25, 1920: Present.
Do.....	Jan. 16–Feb. 5.....			Present.
Tunis:				
Tunis.....	Nov. 30–Dec. 28.....	10	16	
Do.....	Jan. 8–Mar. 25.....	51	34	
Turkey:				
Constantinople.....	Nov. 21–Dec. 11.....	4		
Do.....	Jan. 2–Mar. 26.....	27	1	
Union of South Africa.				
	Feb. 27–Apr. 12.....			Fresh outbreaks, Cape Province, Natal, Orange Free State, and Transvaal.
Cape Province.....	Jan. 23–Feb. 5.....			Outbreaks.
Natal.....				Feb. 13–19, 1921: Present in rural areas.
Durban district.....	Jan. 23–Feb. 5.....			Outbreak.
Orange Free State.....	do.....			Outbreaks, Feb. 13–19, 1921 Present in rural area.
Transvaal.....				Jan. 23–Feb. 5, 1921: Outbreak in 1 district.
Johannesburg.....	Oct. 1–31.....	1		From Portuguese East Africa.
Do.....	Feb. 13–19.....	2		
Uruguay:				
Montevideo.....	Dec. 1–31.....	6	2	
On vessel:				
S. S. Alfonso XIII.....	Dec. 27.....	1		At Habana, Cuba, from ports in northern Spain.
S. S. Cadiz.....	Jan. 5.....	1		At Habana, Cuba, from Mediterranean ports.
U. S. S. Mississippi.....	Feb. 18–20.....	22		In Canal Zone.
S. S. Ohion.....	Jan. 4.....	1		At San Pedro, Calif., from New York, via Balboa, Canal Zone.
S. S. Ventura.....	Jan. 18.....	1		At Sydney, Australia, from San Francisco, Calif., via Honolulu, and Pago Pago, Samoa.
S. S. —.....	Mar. 27–Apr. 2.....	2	1	At quarantine, St. John, New Brunswick. From Europe.

TYPHUS FEVER.

Algeria:				
Algiers.....	Jan. 1–Feb. 28.....	6	1	
Belgium:				
Ghent.....				Five cases of typhus fever noted in Public Health Reports of Jan. 21, 1921, p. 105, and subsequent issues, stated in later reports to have been erroneously reported.
Bolivia:				
La Paz.....	Dec. 1–31.....	13	9	
Brazil:				
Ceara.....	Oct. 17–Dec. 26.....		3	
Do.....	Jan. 2–29.....		5	
Bulgaria:				
Sofia.....	Jan. 2–Mar. 12.....	8		
Chile:				
Arica.....	Mar. 14.....	9		Among laborers arriving from the arid region by way of Iquique, Chile, Feb. 16, 1921.
Concepcion.....	Nov. 1–Dec. 27.....		23	Present in vicinity. Year 1920, in public hospital, 89 cases, 13 deaths.
Do.....	Dec. 28–Feb. 26.....		14	
Cochinab.....	Dec. 1–7.....		1	
Valparaiso.....	Oct. 25–Nov. 27.....		13	
Do.....	Jan. 30–Mar. 19.....		14	
China:				
Manchuria (Province)—				
Harbin.....	Nov. 22–28.....	1		On Chinese Eastern Railway.
Do.....	Jan. 3–9.....	1		
Manchuria Station.....	Nov. 22–28.....	2		Do.
Do.....	Jan. 10–16.....	1		
Chosen (Korea):				
Seoul.....	Dec. 1–31.....		1	
Do.....	Jan. 1–Feb. 28.....	31	2	
Chemulpo.....	Feb. 1–28.....	1		
Colombia:				
Barranquilla.....	Mar. 13–19.....		1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Czechoslovakia.....				
Prague.....	Feb. 1-21.....	2		July 11-Aug. 28, 1920: Cases, 138; deaths, 18. Reported present, Feb. 19, 1921.
Danzig.....	Dec. 20.....	1		In emigrant from Brest-Litovsk, with 2 weeks' stay at Warsaw.
Do.....	Jan. 16-Feb. 5.....	3	1	
Egypt:				
Alexandria.....	Nov. 19-Dec. 31.....	13	6	
Do.....	Jan. 1-Mar. 18.....	23	10	
Cairo.....	Oct. 1-Dec. 28.....	44	32	
Do.....	Jan. 1-28.....	18	15	
Germany.....				Sept. 12-Dec. 25, 1920: Cases, 259, including 11 in a camp. Dec. 26, 1920-Jan. 8, 1921: Cases, 7.
Great Britain:				
Belfast.....	Dec. 5-25.....	13		
Do.....	Jan. 9-Mar. 19.....	8	1	
Dublin.....	Nov. 28-Dec. 18.....	4	3	
Do.....	Jan. 9-Mar. 5.....	11	2	
Greece:				
Drama.....	Nov. 22-28.....	1		
Do.....	Feb. 28-Mar. 6.....	1		
Kavalla.....	.....do.....	2		
Patras.....	Nov. 20-Dec. 5.....		1	
Saloniki.....	Oct. 25-Dec. 26.....	34	9	
Do.....	Jan. 10-Mar. 13.....	488	15	Among refugees from Russia. Present among Caucasian refugees in vicinity. At other localities, Feb. 28-Mar. 13, 1921: Cases, 27; deaths, 2.
Serres.....	Nov. 8-14.....	1		Feb. 1-Mar. 12, 1921: Present in highland departments. Aug. 2-Dec. 5, 1920: Cases, 38.
Guatemala.....				
Guatemala City.....	Mar. 1-12.....		1	
Hungary.....				
Budapest.....	Nov. 8-Dec. 5.....	2		
Italy:				
Naples.....	Feb. 23.....	2		
Trieste.....	Feb. 14.....	30		Among emigrants intending to come to United States.
Japan:				
Nagasaki.....	Nov. 15-Dec. 23.....	10	1	
Do.....	Dec. 27-Mar. 13.....	23	6	
Jugoslavia.....	July 25-Aug. 28.....	27	5	Feb. 7-13, 1920: Cases, 81; deaths, 2. Dec. 12-25, 1920: Cases, 112, 114 remaining cases.
Belgrade.....	Jan. 9-Mar. 28.....	5		51 remaining cases.
Medjumurju Province.....	Jan. 2-8.....	73		
Do.....	Feb. 13-19.....	42		
Zagreb.....	Dec. 12-25.....	27		
Do.....	Dec. 26-Feb. 21.....	41	6	City and country.
Malta.....	Dec. 1-31.....	1		
Mesopotamia:				
Bagdad.....	Nov. 1-30.....	1	1	
Mexico:				
Guadalajara.....	Dec. 1-31.....	11		
Do.....	Jan. 1-31.....	6	3	
Mexico City.....	Nov. 14-Dec. 25.....	67		Including municipalities in the Federal district.
Do.....	Dec. 26-Mar. 19.....	170		Do.
San Luis Potosi.....	Dec. 5-31.....			Present.
Do.....	Jan. 16-Apr. 2.....		4	
Netherlands:				
Rotterdam.....	Jan. 23-29.....	1		
Poland:				
District—				Sept.-Oct., 1920: Cases, 3,815; deaths, 371. Nov. 1-30, 1920: Cases, 3,059; deaths, 350. Dec. 1-31, 1920: Cases, 4,314; deaths, 557. Jan. 1-31, 1921: Cases, 5,298; deaths, 507. Year 1920: Cases, 161,850.
Galicja.....	Nov. 1-30.....	1,192	283	
Kielce.....	.....do.....	273	15	
Lodz.....	.....do.....	82	6	
Lublin.....	.....do.....	401	20	
Posen.....	.....do.....	17		
Silesia.....	.....do.....	6		
Warsaw.....	.....do.....	191	17	
Warsaw city.....	Nov. 1-Dec. 13.....	93	8	
District—				
Bialystok.....	Jan. 1-31.....	321	33	
Galicja.....	.....do.....	3,427	457	
Kielce.....	.....do.....	426	42	
Lodz.....	.....do.....	200	14	
Lublin.....	.....do.....	181	18	
Posen.....	.....do.....	13		
Silesia.....	.....do.....	1		
Warsaw.....	.....do.....	340	16	
Warsaw city.....	.....do.....	197	17	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Portugal:				
Oporto.....	Nov. 28-Dec. 4.....	1		
Do.....	Dec. 26-Mar. 28.....	5	2	
Rumania:				
Cities—				
Bucharest.....	Nov. 1-Dec. 31.....	9	1	
Do.....	Jan. 1-31.....	7		
Constanza.....	Dec. 1-31.....	9		
Provinces—				
Bessarabia.....				Nov. 30, 1920: Cases, 101.
Do.....	Jan. 1-Feb. 27.....	426		
Bukowina.....				Jan. 29, 1921: Cases, 103.
Transylvania.....	Dec. 1-31.....	81		Including Banat.
Do.....	Jan. 1-Feb. 14.....	41		In the old Kingdom of Roumania on Dec. 31, 1920, 119 cases reported present.
Russia:				
Province—				
Esthonia.....				Sept. 1-Dec. 31, 1920: Cases, 455.
Latvia—				Jan. 1-Feb. 28, 1921: Cases, 314.
Riga.....	Nov. 1-Dec. 31.....	185		
Do.....	Jan. 1-Feb. 23.....	394		
Lithuania.....				Feb. 19, 1921: Cases, 175; mortality, 5 to 6 per cent.
Ruthenia.....				Feb. 19, 1921: Occurrence of about 5 fatal cases daily. Mar. 5, 1921, 200 fatal cases previously unreported.
Ukraine.....				Feb. 19, 1921: Occurrence of about 5 fatal cases daily.
Siberia—				
Vladivostok.....	Jan. 1-31.....	1	6	Dec. 1-31, 1920: Cases, 11; deaths, 6.
Turkey:				
Constantinople.....	Nov. 21-Dec. 25.....	25	1	
Do.....	Jan. 2-Mar. 12.....	45		
Union of South Africa.....	Feb. 27-Mar. 12.....			Outbreaks reported in Cape Province and Transvaal.
Cape Province.....				Feb. 13-19, 1921: Outbreaks reported.
Cape Town.....	Dec. 20-28.....	16	5	
East London.....	Jan. 29-Feb. 12.....	5	3	
Port Elizabeth.....	Jan. 30-Feb. 5.....	1		
Natal.....	Feb. 13-19.....			Outbreak.
Orange Free State.....	Jan. 23-Feb. 5.....			Outbreaks.
Transvaal—				
Johannesburg.....	do.....	1		District.
On vessels:				
S. S. Presidente Wilson.....	Feb. 1-6.....	15		At New York. From Trieste, Italy, Jan. 15; Naples, Jan. 18; and Algiers, Jan. 22, 1921.
S. S. San Giusto.....	Feb. 10-Mar. 3.....	22		At New York. From Trieste, Jan. 23, and Naples, Jan. 26, 1921.

YELLOW FEVER.

Brazil:				
Pernambuco.....	Nov. 11-21.....	1	1	
Mexico:				
Orizaba.....	Dec. 5-18.....	2	1	
Papantla.....	do.....	8	2	
Do.....	Jan. 9-15.....		1	
Tampico.....	Dec. 12-18.....	1	1	
Tuxpam.....	Dec. 5-18.....	9	4	
Do.....	Dec. 26-Jan. 1.....	5	1	
Vera Cruz.....	Dec. 5-26.....	8	3	
Do.....	Dec. 26-Mar. 20.....	6	1	
Zamora.....	Dec. 12-18.....	1	1	Also called Guiterrez, State of Vera Cruz.

May 6, 1921.

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CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

YELLOW FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Pern:				
Department—				
Lambayeque.....				Outbreak reported Jan. 22, 1921.
Chiclayo.....	Feb. 1-8.....	18	6	
Eten.....	do.....	7	2	
Ferrenafe.....	Jan. 1-31.....	18	17	
Do.....	Feb. 1-28.....	44	19	
Lambayeque.....	Jan. 1-30.....	2	1	
Do.....	Feb. 1-28.....	4		
Monsefu.....	Feb. 16-28.....	2		
On vessel:				
S. S. Savoia.....	Jan. 11-15.....	4		At Habana, Cuba, from Vera Cruz, Mexico. Vessel arrived Habana, Jan. 10, 1920, with three cases sickness on board. Two cases confirmed. Two cases developed later on board; confirmed Jan. 15. Savoia left Vera Cruz Jan. 6, 1921.

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